brother

FACSIMILE EQUIPMENT

# SERVICE MANUAL

## MODEL: MFC9100C/MFC760

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# PREFACE

This publication is a Service Manual covering the specifications, construction, theory of operation, and maintenance of the Brother facsimile equipment. It includes information required for field troubleshooting and repair--disassembly, reassembly, and lubrication--so that service personnel will be able to understand equipment function, to rapidly repair the equipment and order any necessary spare parts.

To perform appropriate maintenance so that the facsimile equipment is always in best condition for the customer, the service personnel must adequately understand and apply this manual.

This manual is made up of six chapters and appendices.


**CHAPTER I. GENERAL DESCRIPTION**

**CHAPTER II. INSTALLATION**

**CHAPTER III. THEORY OF OPERATION**

**CHAPTER IV. DISASSEMBLY/REASSEMBLY, LUBRICATION AND ADJUSTMENT**

**CHAPTER V. MAINTENANCE MODE**

**CHAPTER VI. ERROR INDICATION AND TROUBLESHOOTING**

**Appendix 1. EEPROM Customizing Codes**

**Appendix 2. Circuit Diagrams**


This manual describes the model and its versions to be destined for major countries. The specifications and functions are subject to change depending upon each destination.

# CHAPTER I.

## GENERAL DESCRIPTION

# CHAPTER I. GENERAL DESCRIPTION

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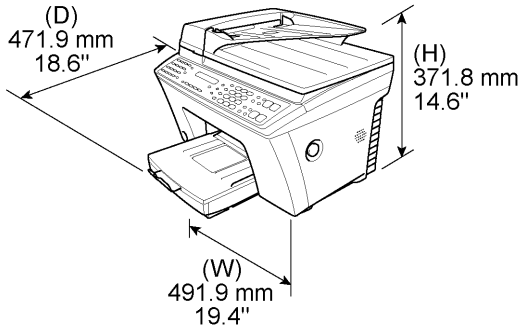
# 1. EQUIPMENT OUTLINE

## 1.1 External Appearance and Weight

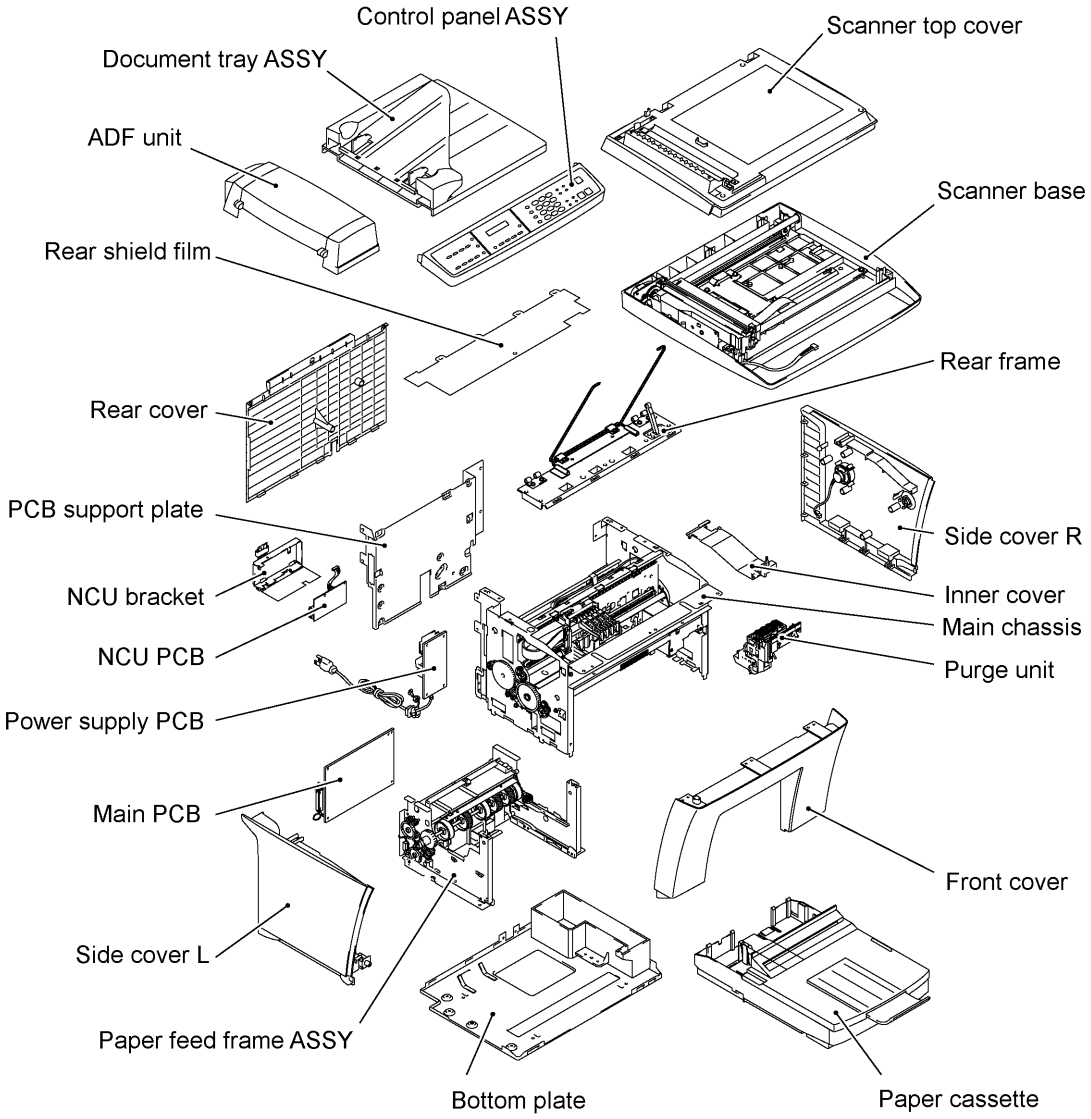
The figure below shows the equipment appearance and approximate dimensions.




| | | |
|---|---|---|
| Weight: | Machine proper | Approx. 16 kg (36 lb.) |
| | In package | Approx. 20 kg (44 lb.) |

## 1.2 Components

The equipment consists of the following major components:



# 2. SPECIFICATIONS

(1/4)

| MODEL | MFC9100C | MFC760 |
|---|---|---|
| **GENERAL** | | |
| Print Engine | BY2 | BY2 |
| Modem Speed (bps) | 14.400 | 14.400 |
| Transmission Speed (sec) | 6 | 6 |
| ITU-T Group | G3 | G3 |
| Coding Method | MH/MR/MMR | MH/MR/MMR |
| Input/Output Width | 8.5"/8.5" | 8.5"/8.5" |
| ADF (pages) | 50 | 50 |
| LCD Size | 16 x 2 | 16 x 2 |
| On-Screen Programming | Yes | Yes |
| Backup Clock | 1 hour | 1 hour |
| Memory Capacity | 8 MB | 8 MB |
| Backup Memory | N/A | N/A |
| Optional Memory | N/A | N/A |
| Color | New Color | New Color |
| Standby Mode | N/A | N/A |
| PC-Fax Protocol Compliance | Class 1, 2 | Class 1,2 |
| Simultaneous Operation | Yes (Print/Fax, Print/Copy, Print/Scan) | Yes (Print/Fax, Print/Copy, Print/Scan) |
| Data Modem | N/A | N/A |
| Energy Star Compliance | Yes | Yes |
| **TELEPHONE** | | |
| Automatic Redial | Yes | Yes |
| Handset | N/A | N/A |
| One-Touch Dial | 16 | 16 |
| Speed Dial | 100 | 100 |
| Telephone Index | Yes | Yes |
| Speaker Phone | N/A | N/A |
| Chain Dialing | Yes | Yes |
| Caller ID | Yes | N/A |
| Call Waiting Caller ID | N/A | N/A |
| Distinctive Ringing | Yes | Yes for UK |
| Hold/Mute Key | N/A | N/A |
| Junk Call Barrier | N/A | N/A |
| Power Failure Dialing | N/A | N/A |
| Ringer Volume | Yes (3 levels + OFF) | Yes (3 levels + OFF) |
| PBX Feature | No | No |
| Transfer Method | Flash | Flash |
| Digits of One-Touch & Speed Dial | 20 digits | 20 digits |
| Registrable Number of Characters | 15 chars | 15 chars |
| **FAX** | | |
| Internet FAX | Yes (Netcentric) | Yes (WordCraft) |
| Easy Receive/Fax Detect | Yes | Yes |
| Fax/Tel Switch | N/A | N/A |
| Super Fine | Yes | Yes |
| 300 dpi Transmission | N/A | N/A |

| MODEL | MFC9100C | MFC760 |
|---|---|---|
| Gray Scale | 256 | 256 |
| Contrast | Text (Light/Normal/Dark), Photo | Text (Light/Normal/Dark), Photo |
| Smoothing | N/A | N/A |
| Call Reservation | N/A | N/A |
| Password Check | N/A | N/A |
| Enhanced Remote Activation | Yes | Yes |
| Multi-Resolution Transmission | Yes | Yes |
| Multi Transmission | N/A | N/A |
| Next-Fax Reservation | Yes (= DUAL ACCESS) | Yes (= DUAL ACCESS) |
| Delayed Timer | Yes (Up to 50 timers or 50 jobs) | Yes (Up to 50 timers or 50 jobs) |
| Polling | Yes (Std/Seq) | Yes (Std/Del/Seq/Sec) |
| Quick Scan (Memory Transmission) | Yes (Super/3 sec.)<br>- 590 pages x 11K | Yes (Super/3 sec.)<br>- 590pages x 11K |
| Broadcasting | Yes (166 locations) | Yes (166 locations) |
| Batch Transmission | N/A | N/A |
| Auto Reduction | Yes | Yes |
| Out-of-Paper Reception | Yes (600 pages x 11K) | Yes (600 pages x 11K) |
| Dual Access | Yes | Yes |
| ECM (Error Correction Mode) | Yes | Yes |
| ITU SUB Addressing | N/A | N/A |
| **LIST/REPORT** | | |
| Activity Report/Journal Report | Yes | Yes |
| Transmission Verification Report | Yes | Yes |
| Coverpage | Yes (Super) | Yes (Super) |
| Help List | Yes | Yes |
| Callback Message | No | No |
| Caller ID List | Yes | No |
| **INTERFACE** | | |
| External TAD Interface | Yes | Yes |
| Missing Link/PC Interface | No | No |
| Printer Interface | Yes (Parallel) | Yes (Parallel) |
| **COLOR** | | |
| BFT Compatible | Yes | Yes |
| Color Fax Mode | No | No |
| **PRINTER** | | |
| Color/Mono | Color | Color |
| Engine Type | Piezo inkjet | Piezo inkjet |
| Resolution (dpi) | 1440 x 720, 720 x 720,<br>360 x 360, 360 x 180 | 1440 x 720, 720 x 720,<br>360 x 360, 360 x 180 |
| Speed (ppm) | Mono: Up to 7 (360 x 180)<br>Color: Up to 4 (360 x 180) | Mono: Up to 7 (360 x 180)<br>Color: Up to 4 (360 x 180) |
| Paper Capacity (sheets) | 250 | 250 |
| Optional Paper Capacity (sheets) | N/A | N/A |
| Standard Print Language | GDI | GDI |
| Emulation | Windows GDI, EPSON ESC/P | Windows GDI, EPSON ESC/P |
| Resident Fonts | 1 (10, 12, 15 cpi and Ps for each font) | 1 (10, 12, 15 cpi and Ps for each font) |
| Fonts Disk Based | 35 | 35 |
| Paper Handling Size | LTR, LGL, A4, B5, A5, A6<br>CM10, DL, C5, C6, B5 | LTR, LGL, A4, B5, A5, A6<br>CM10, DL, C5, C6, B5 |

| MODEL | MFC9100C | MFC760 |
|---|---|---|
| Paper Cassette | Cut sheet: Min.2.75" (W) x 5.0" (L)<br>Max. 8.5" (W) x 14.0" (L)<br>Envelop (BL/C5/CM10/Mona)<br>Output paper : 100 sheets | Cut sheet: Min.2.75" (W) x 5.0" (L)<br>Max. 8.5" (W) x 14.0" (L)<br>Envelop (BL/C5/CM10/Mona)<br>Output paper : 100 sheets |
| Printer Driver | Windows 3.1/3.11/95/98/NT4.0 with auto installer program | Windows 3.1/3.11/95/98/NT4.0 |
| Utility Software | Brother Resource Manager | Brother Resource Manager |
| Photo Realistic Print | N/A | N/A |
| Ink Cartridge Life (Black) | 750 pages (5% duty) | 750 pages (5% duty) |
| Ink Cartridge Life (Color) | 400 pages (5% duty for each color) | 400 pages (5% duty for each color) |
| Ink Cartridge Life (Photo) | N/A | N/A |
| Interface Type | Parallel (IEEE1284) | Parallel (IEEE1284) |
| Bundled Cable | Parallel | Option |
| Network | Option (Pony) | Option (Pony) |
| **COPY** | | |
| Color | Yes | Yes |
| Speed (ppm) | Color: 4 ppm, Mono: 5 ppm | Color: 4 ppm, Mono: 5 ppm |
| Multi Copy | Yes (Mono: 99 pages/Color: 99 pages) | Yes (Mono:99 pages/Color:99 pages) |
| Sort | Yes | Yes |
| Reduction/Enlargement | Yes (25% to 400%) | Yes (25% to 400%) |
| Resolution (dpi) | Color: Max. 1440 x 720<br>Min. 360 x 180<br>Mono: Max. 720 x 720<br>Min. 360 x 180 | Color: Max. 1440 x 720<br>Min. 360 x 180<br>Mono: Max. 720 x 720<br>Min. 360 x 180 |
| **SCANNER** | | |
| Color/Mono | Color/Mono | Color/Mono |
| Resolution (dpi) | 300 x 300 (Opt.)/1200 x 1200 (Int.) | 300 x 300 (Opt.)/1200 x 1200 (Int.) |
| Gray Scale | 256 | 256 |
| TWAIN Compliant | Yes | Yes |
| Formats (Import) | TIFF, UniDoc, PCX, DCX | TIFF, UniDoc, PCX, DCX |
| Formats (Export) | TIFF, UniDoc, PCX, DCX | TIFF, UniDoc, PCX, DCX |
| OCR | Yes (Xerox TextBridge) | Yes (Xerox TextBridge) |
| **MESSAGE CENTER / MESSAGE MANAGER** | | |
| ICM Recording Time | No | No |
| Page Memory (Out-of-Paper Reception) | 600 pages x 11K | 600 pages x 11K |
| OGM (MC/MC Pro/Paging/F/T) | No | No |
| TAD Type | No | No |
| Memo/Recording Conversation | No | No |
| Fax Forwarding | Yes | Yes |
| Fax Retrieval | Yes | Yes |
| Paging | Yes | No |
| Remote Access | Yes | Yes |
| Toll Saver | No | No |
| **MESSAGE CENTER PRO/MESSAGE MANAGER PRO** | | |
| Fax & Voice Mail Box | No | No |
| Fax- & Voice-on-Demand | No | No |

| MODEL | MFC9100C | MFC760 |
|---|---|---|
| **MESSAGE CENTER (PC MC)** | | |
| Fax Forwarding | No | No |
| Paging | No | No |
| ICM Recording Time | No | No |
| OGM MC/MC Pro/Paging | No | No |
| Fax & Voice Mail Box | No | No |
| Fax- & Voice-on-Demand | No | No |
| **VIDEO CAPTURE** | | |
| Video Capture | Yes | Yes |
| Video Print | Yes | Yes |
| Video Format | NTSC | PAL |
| **BUNDLED SOFTWARE** | | |
| PC Fax | SMSI | WordCraft |
| Viewer | Visioneer | WordCraft |
| Printer Driver | Brother | Brother |
| Others | Auto E-mail printing<br>Netcentric (PC Internet Fax)<br>3D Fax Speed (PC Color Fax)<br>Corel Print & Photo House | Auto E-mail printing |
| **ACCESSORY** | | |
| Cartridges | Black cartridge<br>Cyan cartridge<br>Magenta cartridge<br>Yellow cartridge | Black cartridge<br>Cyan cartridge<br>Magenta cartridge<br>Yellow cartridge |
| Paper Type | BP36CL (720 dpi high-quality coated paper)<br>BP72CL (720 dpi high-quality coated paper)<br>BPGLL (Glossy paper)<br>BPTRL (Transparencies) | BP36CA (360 dpi high-quality coated paper)<br>BP72CA(720 dpi high-quality coated paper)<br>BPGLA(Glossy paper)<br>BPTRA(Transparencies) |

# CHAPTER II.

## INSTALLATION

# CHAPTER II. INSTALLATION

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1. INSTALLING THE UPDATE DATA TO THE FACSIMILE EQUIPMENT..... II-1

# 1. INSTALLING THE UPDATE DATA TO THE FACSIMILE EQUIPMENT

If the program version is updated or the main PCB is replaced, install the update program onto the flash ROM of the main PCB.

The program installation requires a PC/AT-compatible computer (which is capable of running MS-DOS or its compatible OS).

## Connecting the facsimile equipment to your computer

(1) Make sure that the equipment's power cord is unplugged from a wall socket.

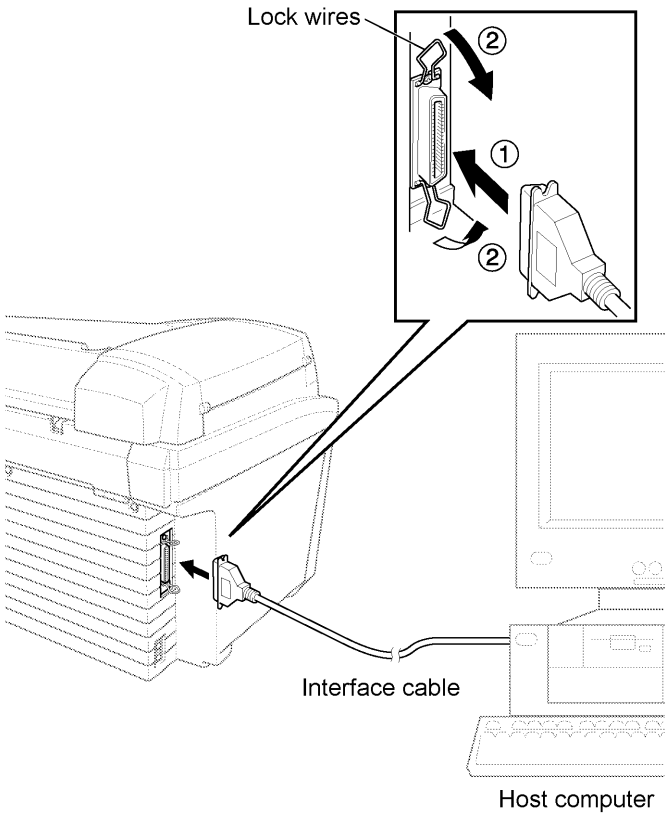
(2) Make sure that your computer is powered off.

(3) Connect the interface cable to the parallel interface port on the left side of the equipment and secure it with the lock wires.

(4) Connect the other end of the interface cable to the printer port of your computer and secure it with the two screws.

(5) Power on your computer.

(6) Plug the equipment's power cord into a wall socket.



## Installing the update data onto the flash ROM of the facsimile equipment

(1) Copy the update data and transfer utility onto the desired directory of the hard disk.
e.g., C:\UPDATE

(2) Click the Start button, point to Programs, and then click MS-DOS Prompt to open an MS-DOS window.

(3) Type the drive letter where the update data and transfer utility are located. In the above example, type C: from the command line and press the **ENTER** key.

Then type CD UPDATE and press the **ENTER** key.

(4) Check that your computer is connected with the facsimile equipment correctly.

(5) To start the transfer utility transmitting the update data to the flash ROM of the facsimile equipment, type the following:

`ICEN` *`filename`* `/b`

Then press the **ENTER** key.

The equipment beeps and shows the "CONNECTING" on the LCD for one second.

Then, the equipment shows the "DOWNLOADING" on the LCD and starts receiving data downloaded from the host computer.

During downloading, the equipment beeps *intermittently*.

Upon completion of the downloading, the equipment beeps *continuously*.

# CHAPTER III.

## THEORY OF OPERATION

# CHAPTER III. THEORY OF OPERATION

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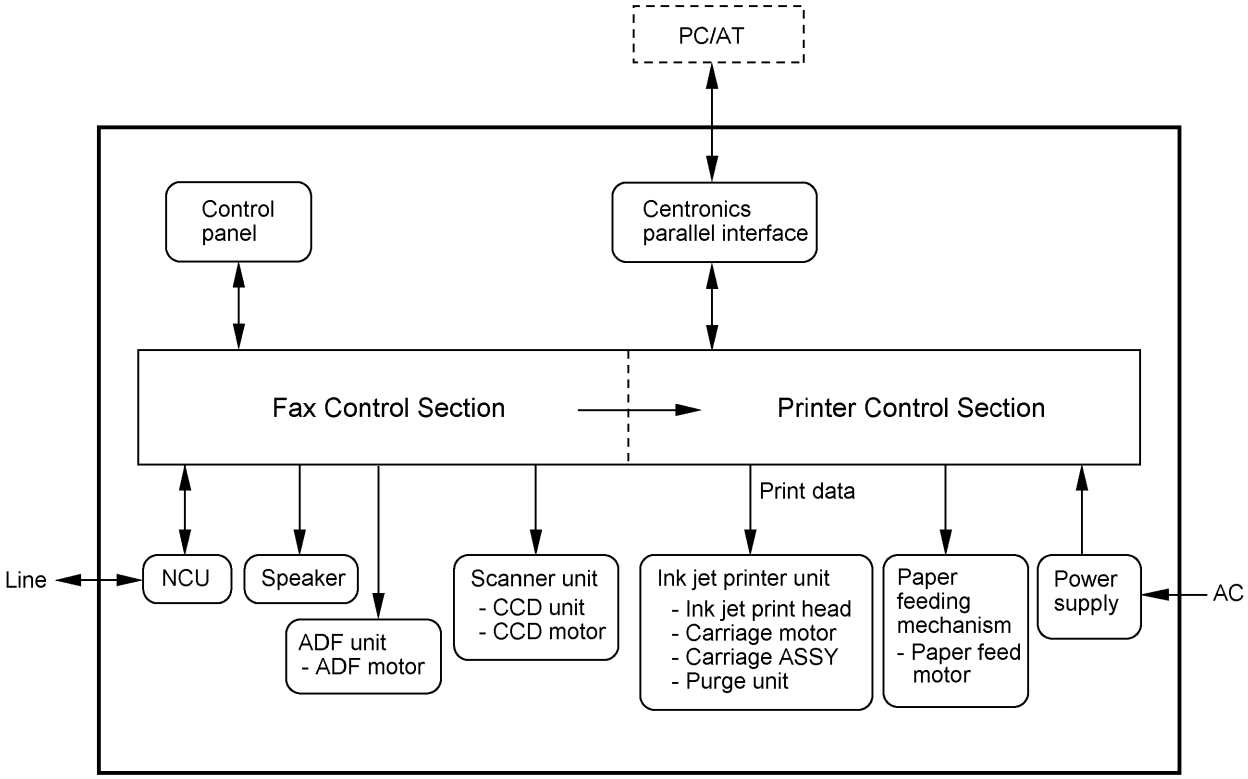
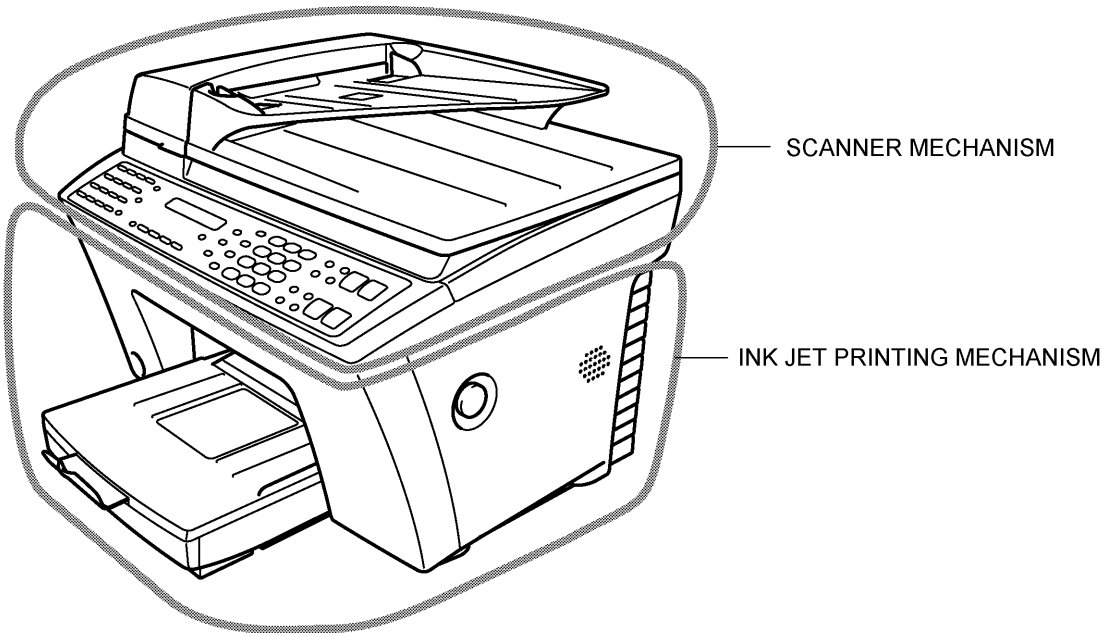
# 1. OVERVIEW


PC/AT
Control panel
Centronics parallel interface
Fax Control Section
Printer Control Section
Print data
Line
NCU
Speaker
ADF unit
- ADF motor
Scanner unit
- CCD unit
- CCD motor
Ink jet printer unit
- Ink jet print head
- Carriage motor
- Carriage ASSY
- Purge unit
Paper feeding mechanism
- Paper feed motor
Power supply
AC

# 2. MECHANISMS

The equipment is classified into the following mechanisms:

- **n** SCANNER MECHANISM
  - – ADF mechanism
  - – Document scanning mechanism
- **n** INK JET PRINTING MECHANISM
  - – Paper pick-up, registration, feeding, and ejecting mechanisms
  - – Ink jet printing and head capping mechanisms
  - – Purging mechanism
  - – Carriage drive mechanism
- **n** SENSORS AND ACTUATORS

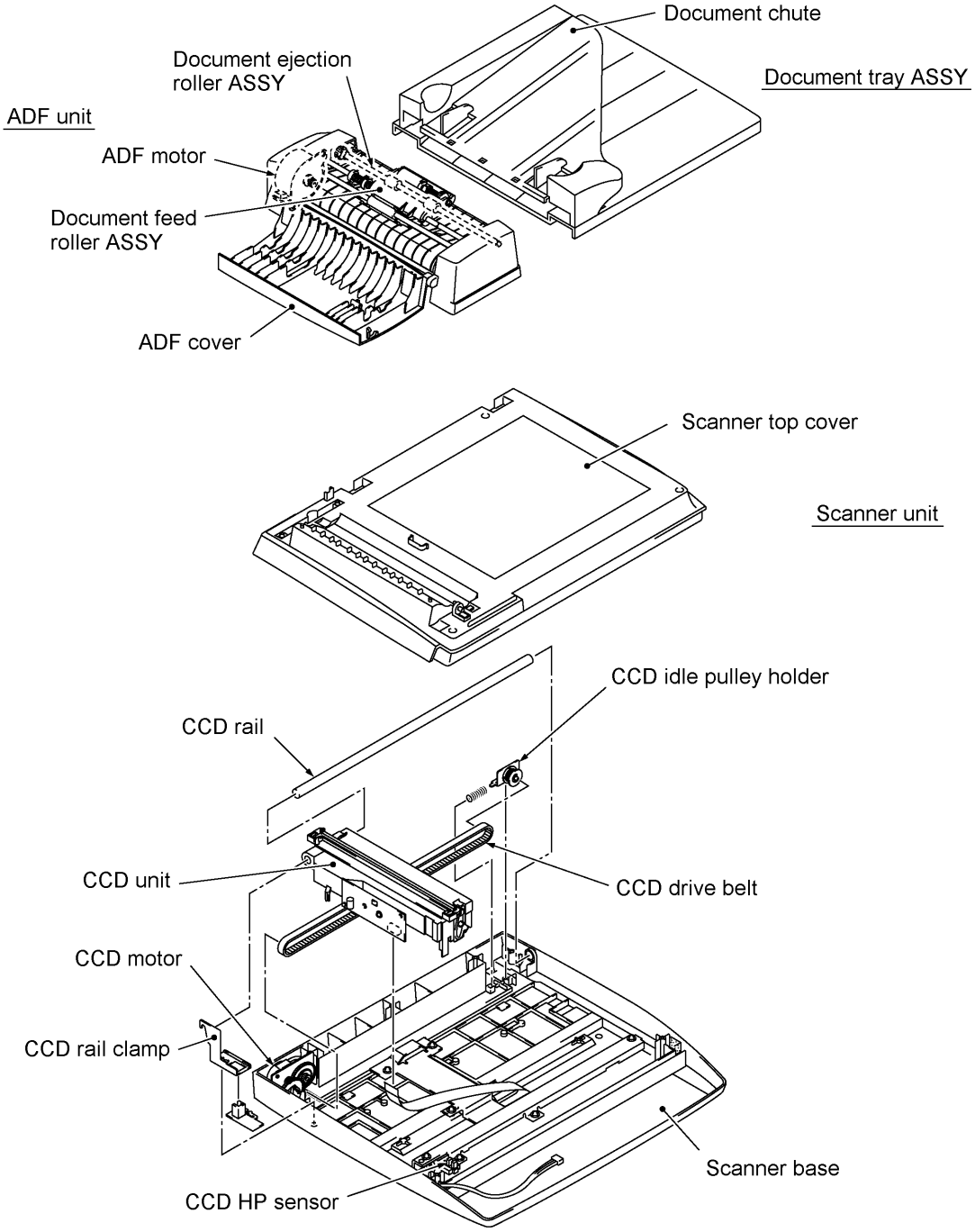


## 2.1 Scanner Mechanism

This mechanism consists of the following:

- document tray ASSY which consists of a document chute and document tray,
- automatic document feeder (ADF) unit which consists of a document feed roller ASSY, document ejection roller ASSY, ADF motor, and document front and rear sensors, and
- scanner unit which consists of a scanner top cover, CCD unit, CCD drive mechanism, CCD HP sensor, and scanner base.

For details about the sensors, refer to Section 2.3.



This scanner mechanism supports a dual scanning system.

(1) If you set documents with their faces up on the document chute and start the scanning operation, the ADF motor rotates so that the document feed roller ASSY feeds those documents into the ADF unit, starting from the bottom sheet to the top, page by page. Each document curves downwards and turns to the right so as to advance above the CCD unit, and then it is fed out to the document tray with the document ejection roller ASSY.

    This way, documents move above the CCD unit being kept in a stationary position.

(2) If you open the scanner unit, put a sheet of document (or put a bound book opened) on the glass of the scanner top cover, close the scanner unit, and start the scanning operation, then the CCD drive mechanism will be driven. That is, the CCD motor rotates and its rotation will be transmitted via the gear train to the CCD drive belt.

    The CCD unit, which is supported and guided by the CCD rail, is secured to the CCD drive belt. Clockwise and counterclockwise rotations of the CCD motor move the CCD unit to the right and left, respectively.

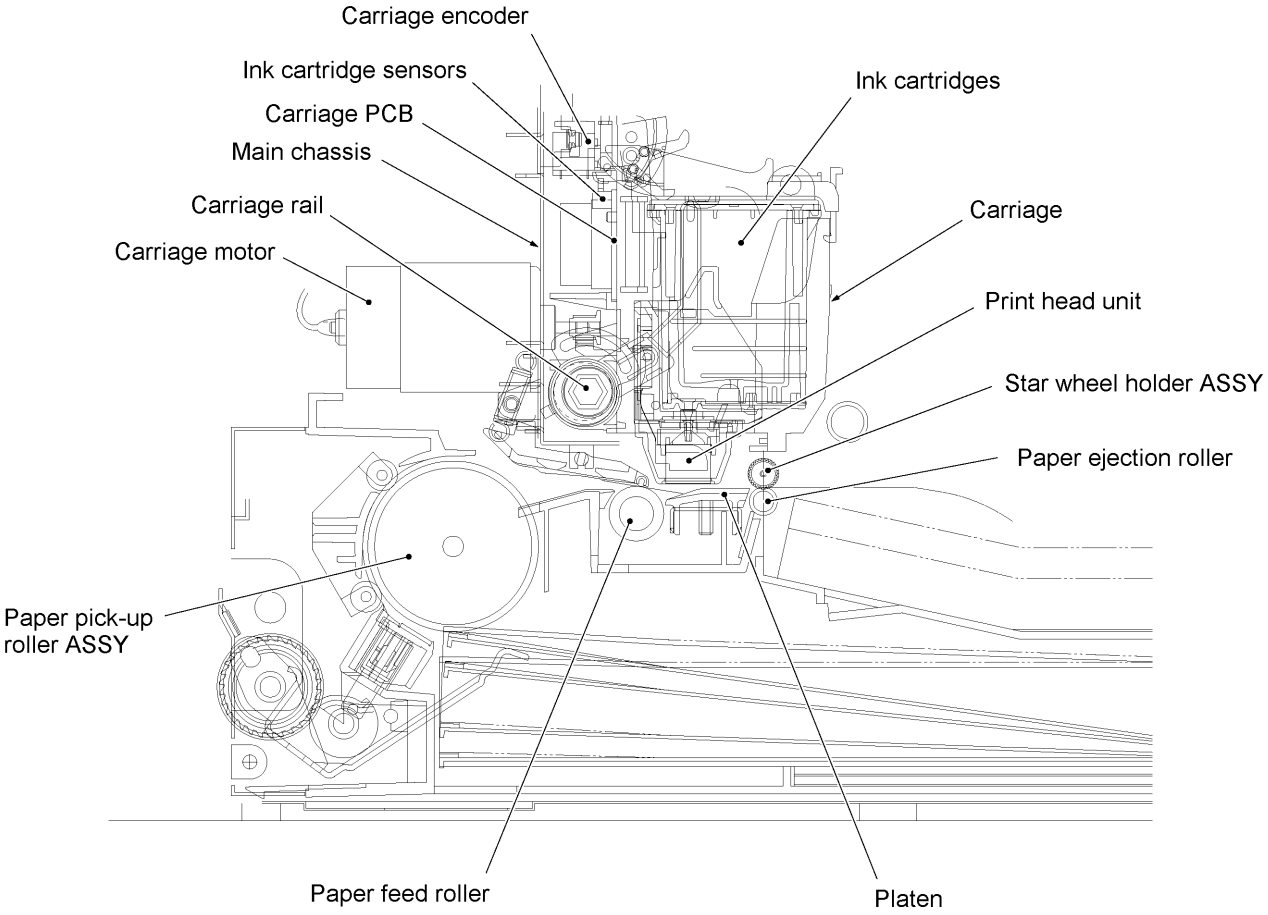
    In this scanning system, the CCD unit moves horizontally beneath a document being kept in stationary position.

The CCD unit contains a charge coupled device (CCD) image sensor. The cold-cathode fluorescent lamp illuminates a document and the reflected light of the scanned image data is transmitted via the mirrors into the lens which reduces the scanned data so as to form the image on the CCD.

## 2.2 Ink Jet Printing Mechanism

### 2.2.1 Paper pick-up, registration, feeding, and ejecting mechanisms

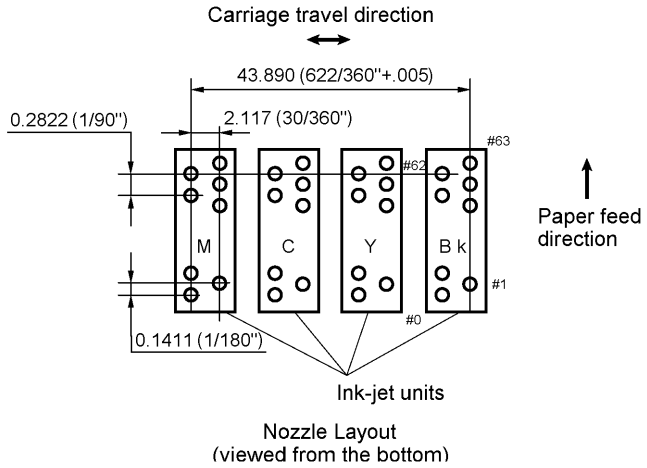
The paper pick-up, registration, feeding, and ejecting mechanisms are driven by a single paper feed motor.



### 2.2.2 Ink jet printing and capping mechanisms

#### (1) Print head

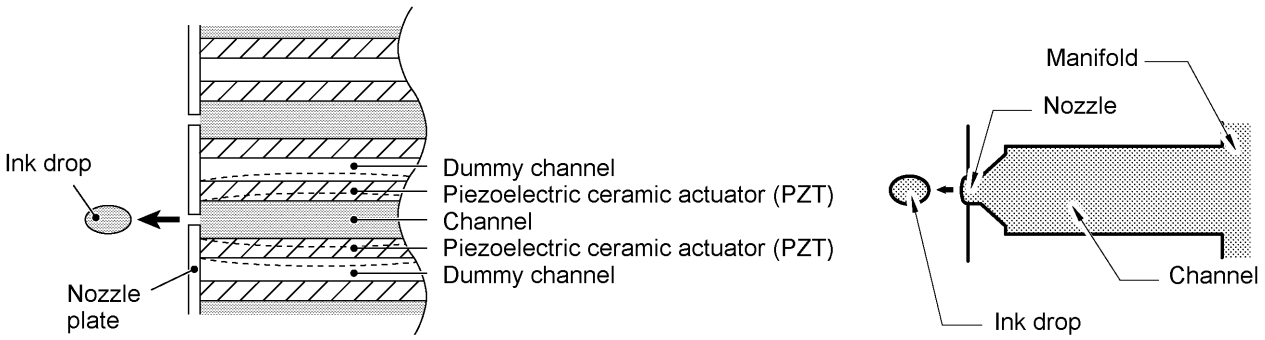
This equipment uses drop-on-demand ink jet printing. The print head has four ink-jet units for four color inks, each of which consists of 64 nozzles, 64 channels sandwiched by a pair of piezoelectric ceramic actuators (PZT), manifold, and filter.




If a drive voltage* is applied to the electrodes formed on the surface of the piezoelectric actuators, those actuators will be distorted as shown with broken lines in the illustration given below so that the ink in the manifold will be vacuumed out to the channel.

(*The controller switches the drive voltage between 28 levels within 13.7V to 29.4V ±3% depending upon the ambient temperature detected by the head thermistor.)

If deenergized, the piezoelectric actuators return to the previous form so as to apply pressure to the ink in the channel, causing the ink to jet out through the nozzle. The jetted-out ink drop will be splashed and produce a dot on paper held by the platen.



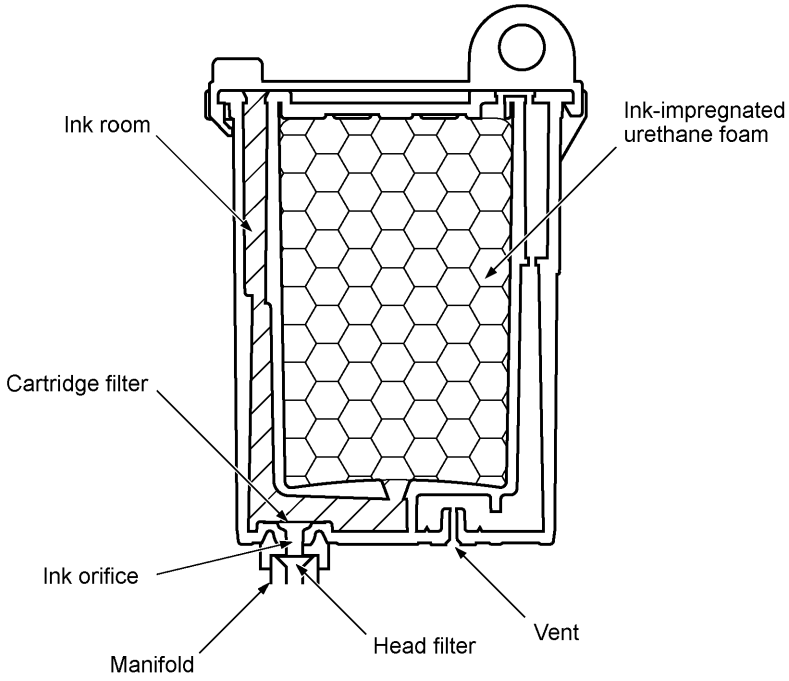

As the carriage holding the print head travels at the printing speed, the character generator sends print command pulses to the circuits driving the piezoelectric actuators embedded in the print head.

For the head thermistor and the head property EEPROM, refer to Section 2.3.

### (2) Ink cartridge

The equipment uses four ink cartridges (black, yellow, cyan, and magenta) of disposable type to supply ink to the print head. As shown below, an ink cartridge contains an ink-impregnated urethane foam. If ink-jet print operation or purging operation takes place, ink comes out of the urethane foam and is supplied to the print head through the ink room, filters, and manifold.

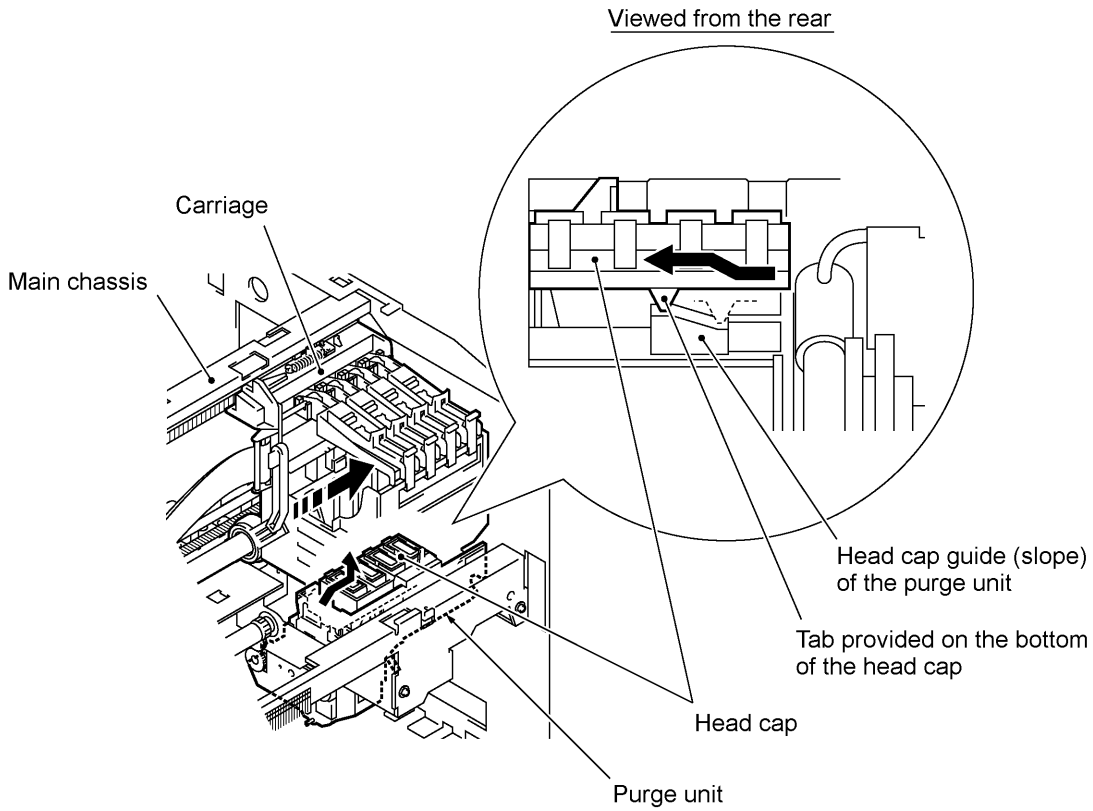
For the ink cartridge sensors on the carriage PCB, refer to Section 2.3.



### (3) Head cap

Shown below is a head cap which prevents the nozzles of the print head from drying up when they are not in use.

Upon completion of printing, the carriage travels to the right and moves the head cap provided on the purge unit together. On the bottom of the head cap is a tab which is lead by the head cap guide of the purge unit. Accordingly, the rightward movement brings the head cap up to the position where the head cap comes into tight contact with the print head so as to cap the nozzles.


Viewed from the rear
Carriage
Main chassis
Head cap guide (slope) of the purge unit
Tab provided on the bottom of the head cap
Head cap
Purge unit

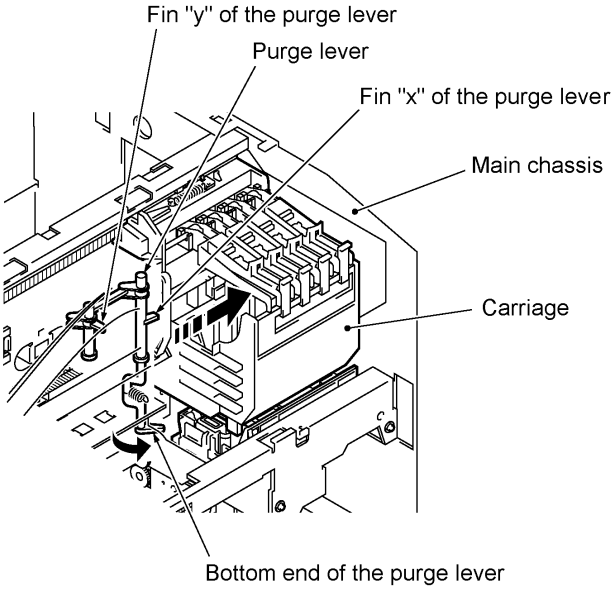
### 2.2.3 Purging mechanism

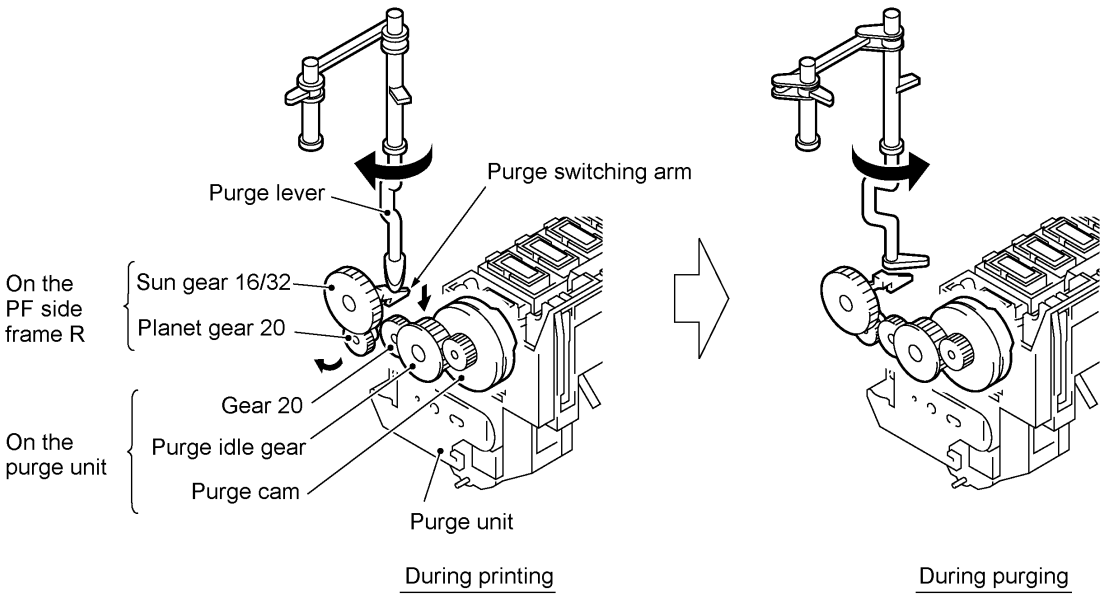
The purging mechanism is driven by the paper feed motor located at the left side of the main chassis. The rotation of the paper feed motor is transmitted to the paper feed roller. At the right end of the paper feed roller, the rotational torque is further transmitted via the arm 12.3 ASSY located on the main chassis to the gear train (including the sun gear 16/32 and planet gear 20) on the PF side frame R.

If the carriage travels from the left to right to reach the purge position, the lower left tab provided on the back of the carriage turns fin "x" of the purge lever counterclockwise (when viewed from the top), so the bottom end of the purge lever releases the purge switching arm. Accordingly, the planet gear 20 will be engaged with the gear 20 and the rotational torque of the paper feed motor will drive the purge cam.

On the contrary, if the carriage travels from the purge position to the left, the upper right tab on the back of the carriage turns fin "y" of the purge lever clockwise. The purge lever's bottom end pushes down the purge switching arm so that the planet gear 20 will be disengaged from the gear 20. The sun gear 16/32 will simple idle.

That is, when the carriage is in printing operation or the purge cam is in the home position, no rotation of the paper feed motor is transmitted to the purge gear train; when the carriage is in the purge position, the motor rotation is transmitted to the purge gear train which rotates the purge cam.



The purge cam is so designed that:

- the carriage lock pops out to lock the carriage before purging and pops in before cleaning with the wiper,
- the purge cap comes out and becomes pressed against the nozzle ends of an ink-jet unit,
- the pump works to draw out ink from the head nozzles and drains it into the ink absorbers, and
- the head wiper comes out to clean the nozzle surface.

A sequence of the above operations is carried out by one rotation of the purge cam. The home position of the purge cam is detected by the HP switch. For the purge cam HP switch, refer to Section 2.3.

**(1) Carriage lock**

If the purge cam is driven, the carriage lock of the purge unit pops out and locks the carriage to align a particular ink-jet unit with the purge cap during purging operation. After purging but before cleaning with the wiper, it pops in to release the carriage. When the power is off, the carriage lock keeps the print head pressed against the head cap.

**(2) Pressing the purge cap against the nozzle ends**

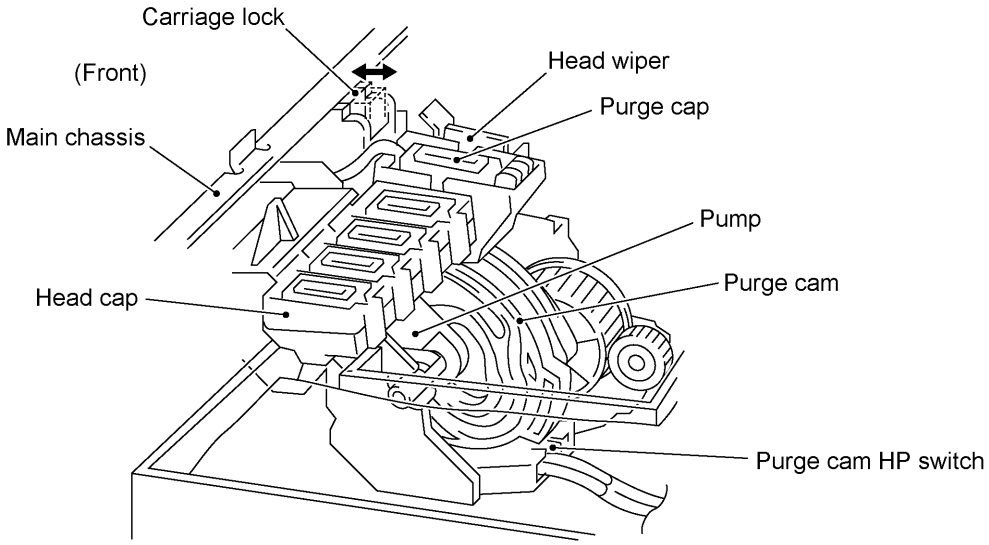
The purge cap comes out and becomes pressed against the nozzle ends of an ink-jet unit.

**(3) Purging**

If activated, the pump draws out ink from the head nozzles and drains it into the ink absorbers to remove air bubbles or dust from the inside of the nozzles and channels.

**(4) Cleaning with the head wiper**

After purging operation, the wiper comes out and the carriage moves from the right to left so as to clean ink remaining on the head surface.

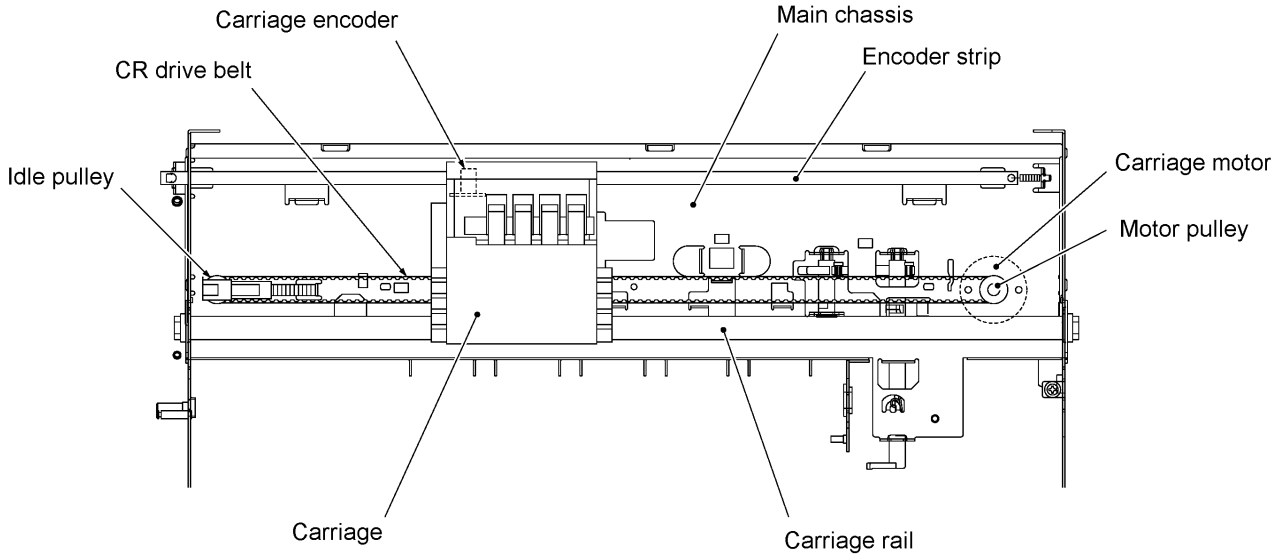


### 2.2.4 Carriage drive mechanism

The carriage motor controls horizontal motion. The motor rotation is transmitted via the motor pulley to the CR drive belt.

The carriage, which is supported and guided by the carriage rail, is secured to the CR drive belt. Clockwise and counterclockwise rotations of the carriage motor move the carriage to the right and left, respectively.

On the back of the carriage is the carriage encoder which tells the control circuitry the current carriage position counted based on the carriage home position by using the encoder strip attached to the main chassis.



## 2.3 Sensors and Actuators

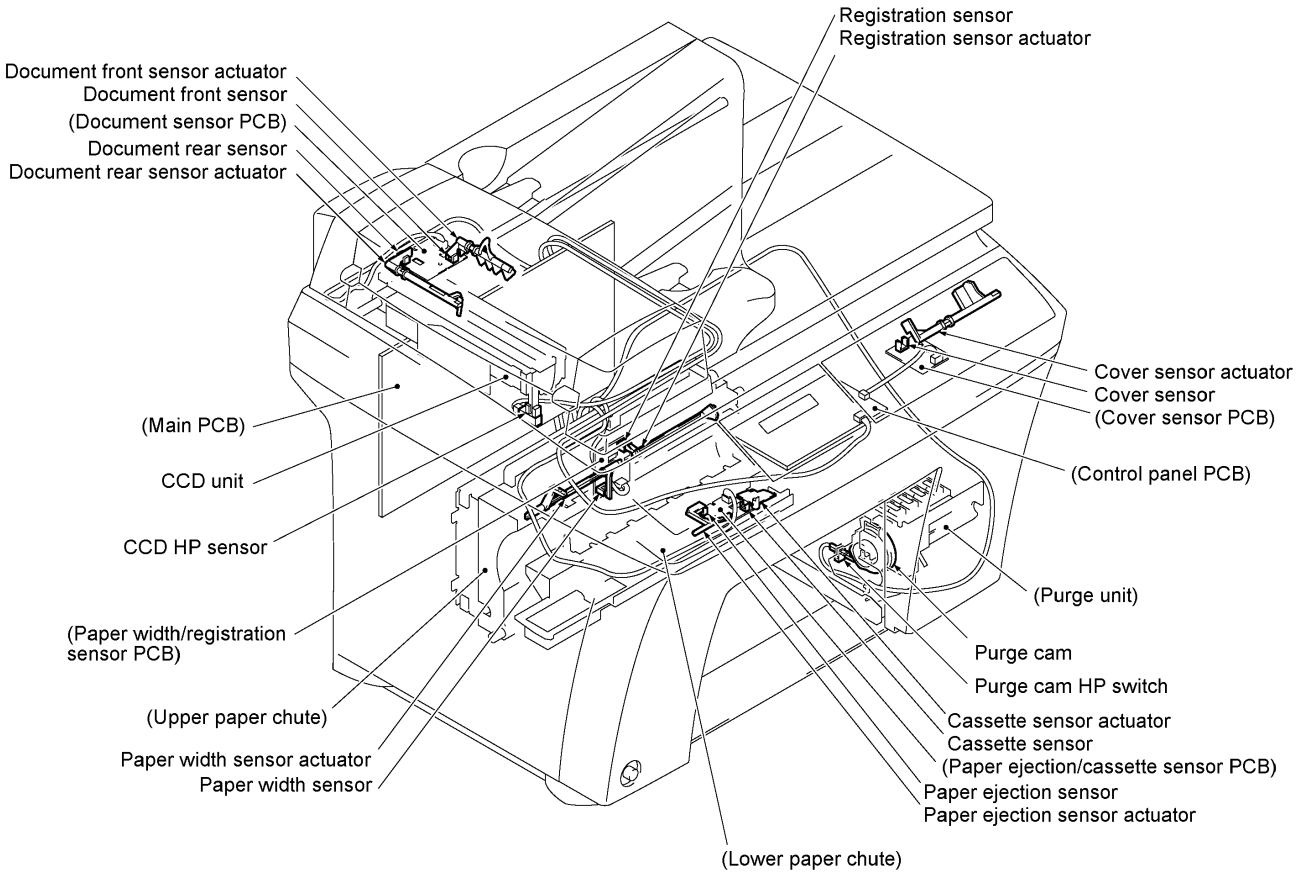
This equipment has the following sensors and thermistor.

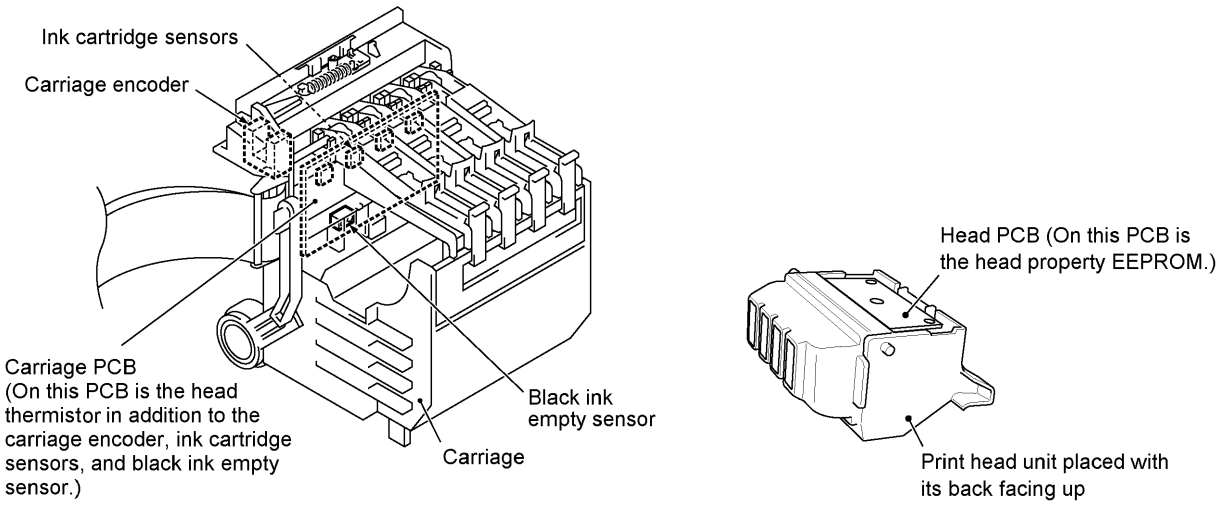
| Sensor name | Type | Located on |
|---|---|---|
| Document front sensor<br>Document rear sensor | Photosensor | Document sensor PCB |
| Cover sensor | Photosensor | Cover sensor PCB on the scanner base |
| CCD HP sensor | Photosensor | Scanner base |
| Registration sensor<br>Paper width sensor | Photosensor | Paper width/registration sensor PCB on the upper paper chute |
| Paper ejection sensor<br>Cassette sensor | Photosensor | Paper ejection/cassette sensor PCB on the lower paper chute |
| Ink cartridge sensors<br>Black ink empty sensor<br>Carriage encoder | Mechanical switches<br>Photosensor<br>Photosensor | Carriage PCB<br>Carriage PCB<br>Carriage PCB |
| Head thermistor<br>Head property EEPROM | Thermistor<br>— | Carriage PCB<br>Print head unit (Head PCB) |
| Purge cam HP switch | Mechanical switch | Purge cam (→Main PCB) |

- Document front sensor which detects the presence of documents.
- Document rear sensor which detects the leading and trailing edges of pages to tell the control circuitry when the leading edge of a new page has reached the starting position and when the scan for that page is over.
- Cover sensor which detects whether the scanner unit is closed.
- CCD HP sensor which detects whether the CCD unit is in the home position.
- Registration sensor which detects the leading and trailing edges of paper, which allows the controller to determine the registration timing.
- Paper width sensor which detects whether the paper width is A4-size or wider.
- Paper ejection sensor which detects whether the paper goes out of the equipment.
- Cassette sensor which detects whether the paper cassette is loaded.
- Ink cartridge sensors, each of which detects whether an ink cartridge is loaded.
- Black ink empty sensor which detects whether the black ink cartridge is empty.
- Carriage encoder which detects the current carriage position and carriage travel speed. If the carriage travel speed varies abnormally, the controller regards it as a paper jam.

- Head thermistor which allows the controller to control the temperature of the print head. According to the change of the thermistor's internal resistance monitored, the control circuitry regulates the drive voltage applied to the head's piezoelectric ceramic actuators since the viscosity of the ink varies depending upon the temperature. If the head thermistor detects 5.5°C or below, or 48°C or higher after two hours of powering-on state, the equipment stops printing and stores print data into the DRAM.
- Head property EEPROM which stores the head property information. If you set the print head unit on the carriage, the control circuitry on the main PCB reads the information and regulates the drive voltage applied to the head's piezoelectric ceramic actuators.
- Purge cam HP switch which detects whether the purge cam is in the home position.

The above photosensors are a photointerrupter consisting of a light-emitting diode and a light-sensitive transistor. Each of them has an actuator separately arranged as shown on the next page.



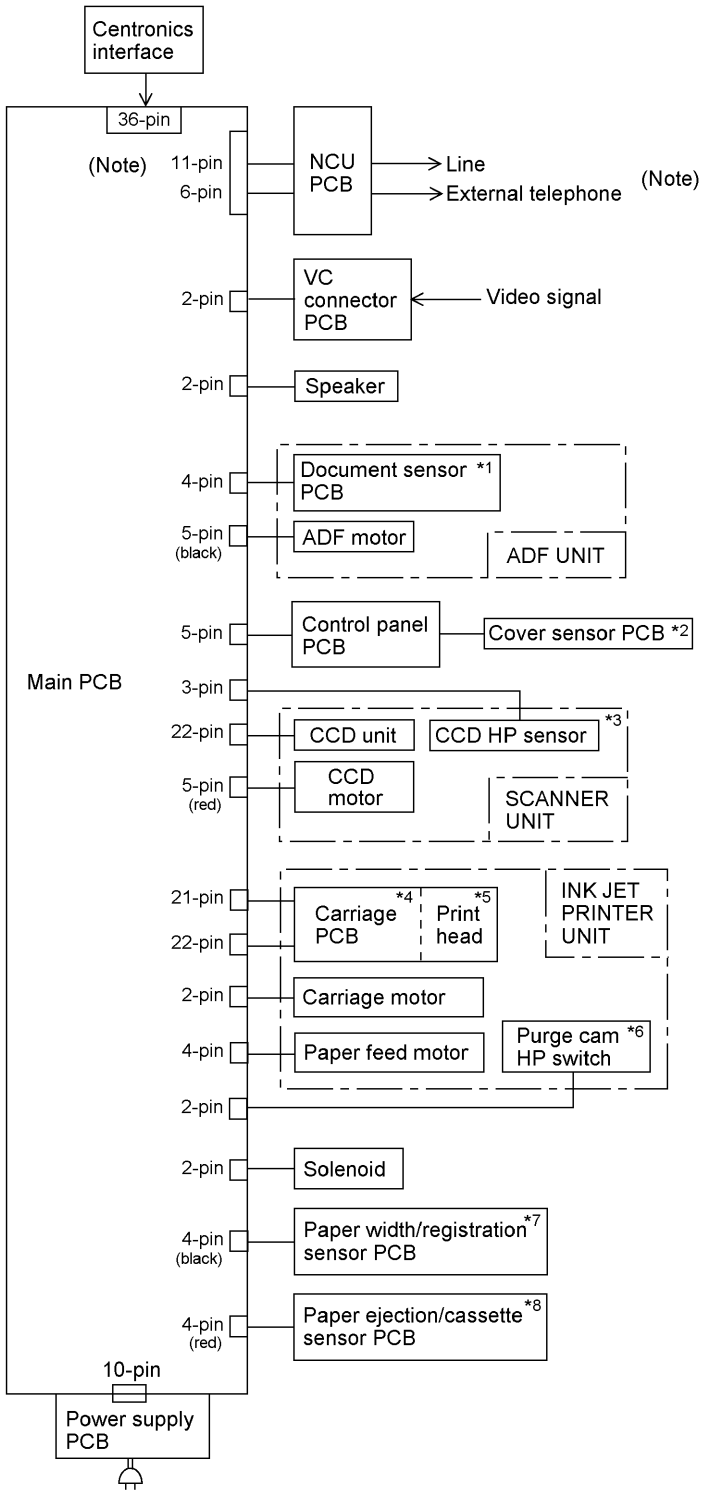


Ink cartridge sensors
Carriage encoder
Carriage PCB
(On this PCB is the head thermistor in addition to the carriage encoder, ink cartridge sensors, and black ink empty sensor.)
Black ink empty sensor
Carriage
Head PCB (On this PCB is the head property EEPROM.)
Print head unit placed with its back facing up

**Location of Sensors and Actuators**

# 3. CONTROL ELECTRONICS

## 3.1 Configuration

The hardware configuration of the facsimile equipment is shown below.




*1 On the document sensor PCB are these sensors:
- Document front sensor
- Document rear sensor

*2 On the cover sensor PCB is a cover sensor.

*3 The CCD HP sensor is located on the scanner base.

*4 On the carriage PCB are these sensors:
- Head thermistor
- Ink cartridge sensors
- Black ink empty sensor
- Carriage encoder

*5 On the head PCB of the print head unit is a head property EEPROM.

*6 The purge cam HP switch is located on the purge unit.

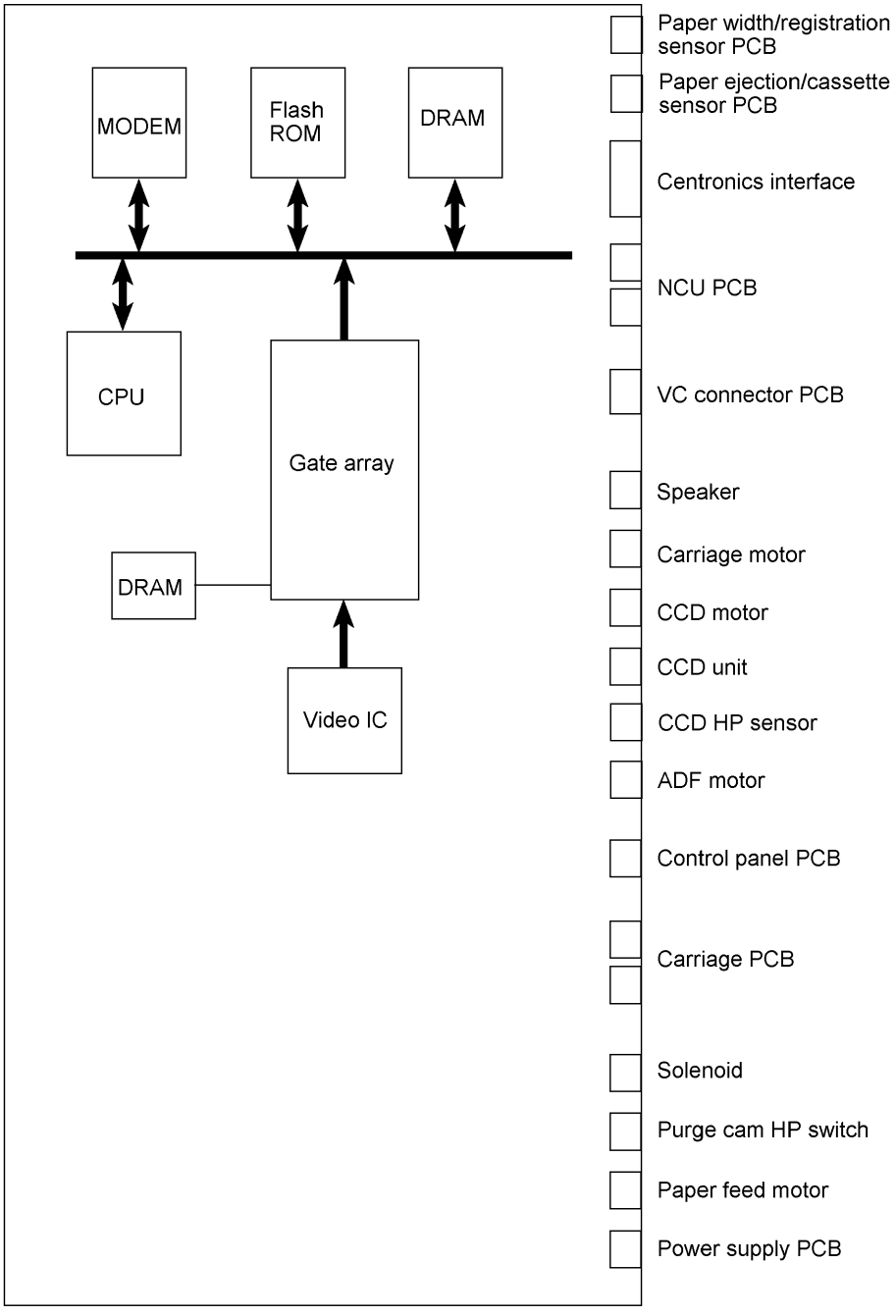
*7 On the paper width/registration sensor PCB are these sensors:
- Paper width sensor
- Registration sensor

*8 On the paper ejection/cassette sensor PCB are these sensors:
- Paper ejection sensor
- Cassette sensor

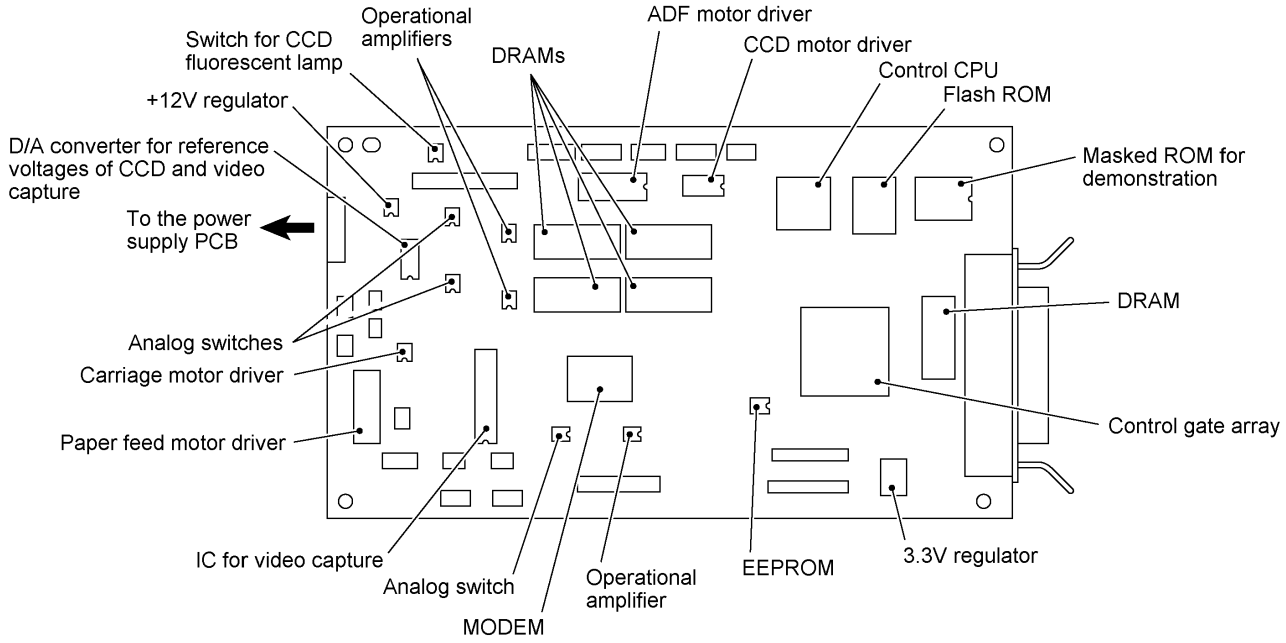
**Configuration of Facsimile Equipment**

### 3.2 Main PCB

The main PCB, which is the nucleus controlling the entire operation of the equipment, consists of a CPU, gate array, memories, MODEM, motor drive circuitry, sensor detection circuitry, and analog circuits for scanning and printing.



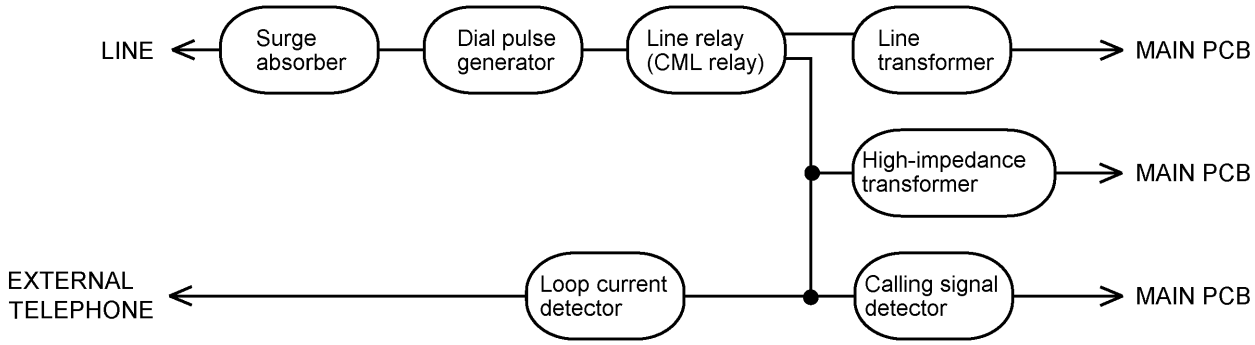

**Block Diagram of Main PCB**

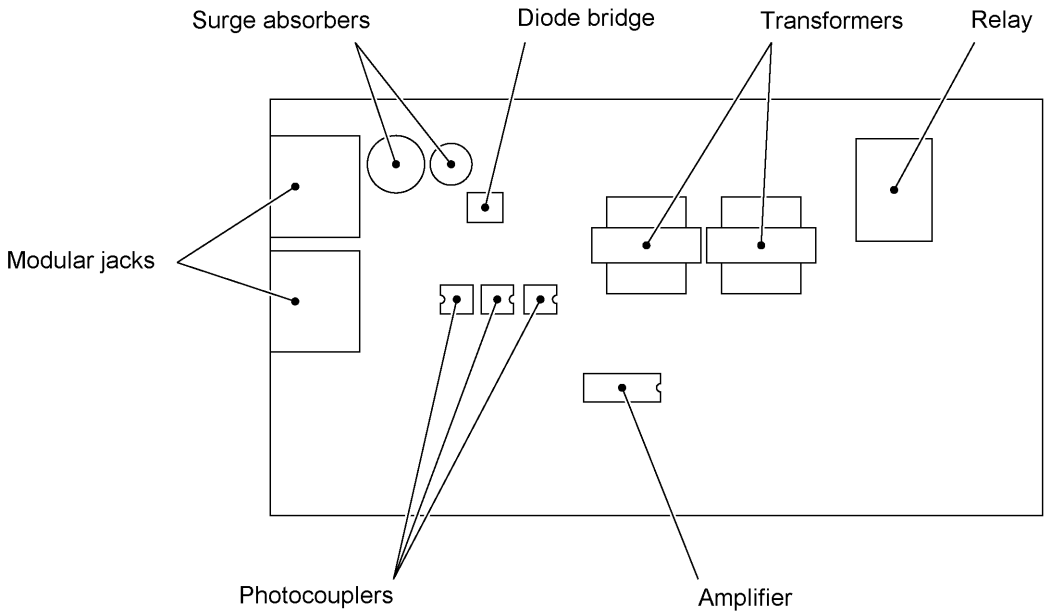

Operational amplifiers
ADF motor driver
Switch for CCD fluorescent lamp
DRAMs
CCD motor driver
Control CPU
Flash ROM
+12V regulator
D/A converter for reference voltages of CCD and video capture
Masked ROM for demonstration
To the power supply PCB
DRAM
Analog switches
Carriage motor driver
Control gate array
Paper feed motor driver
IC for video capture
Analog switch
MODEM
Operational amplifier
EEPROM
3.3V regulator

### 3.3 NCU PCB

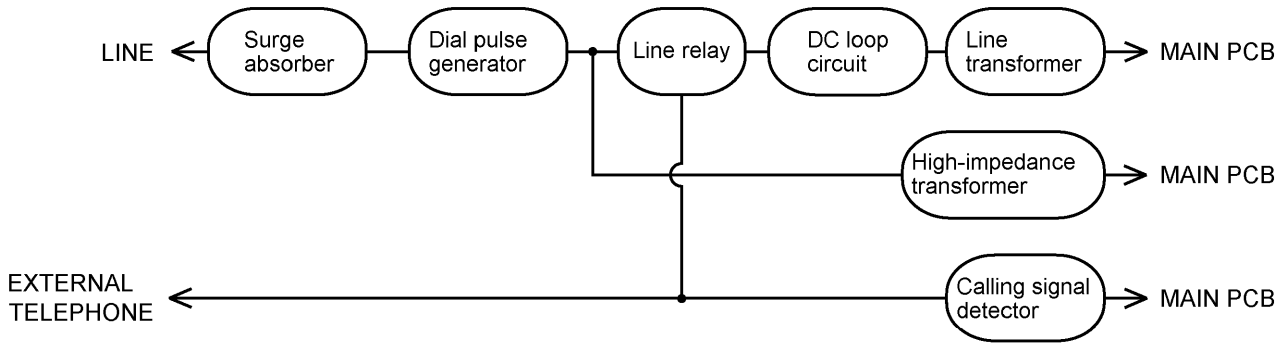
The NCU PCB switches the communications line to telephone or built-in MODEM, under the control of the main PCB.

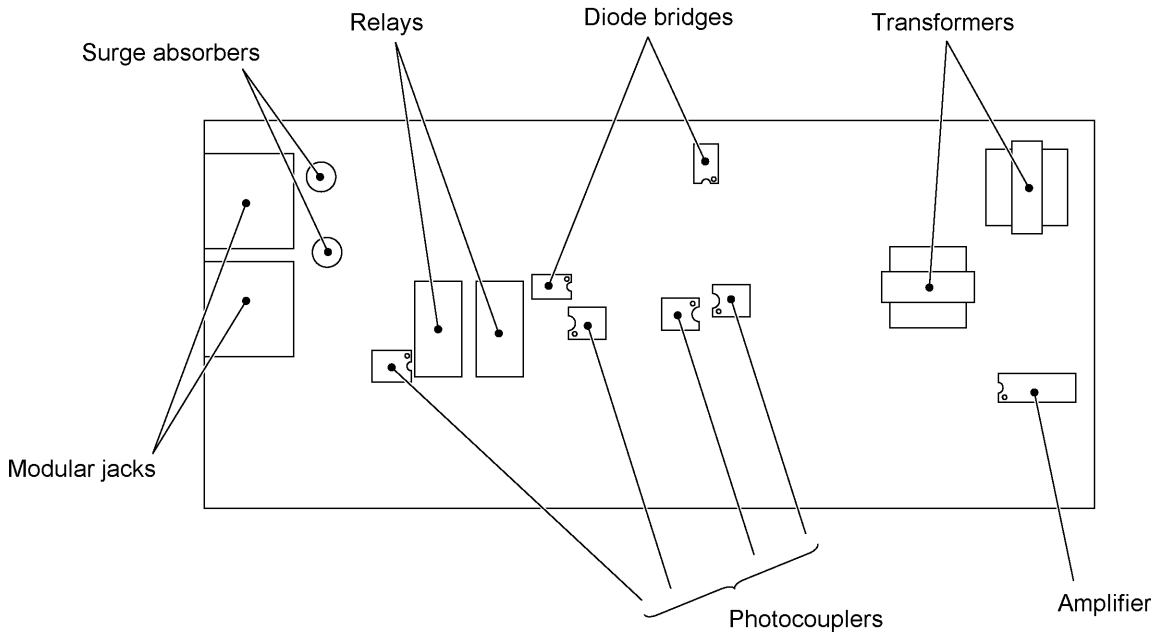
MFC9100C American version



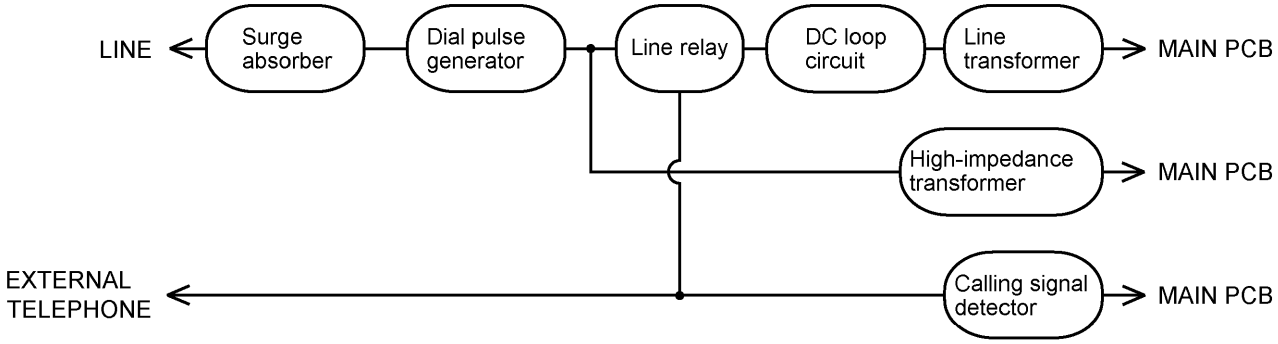



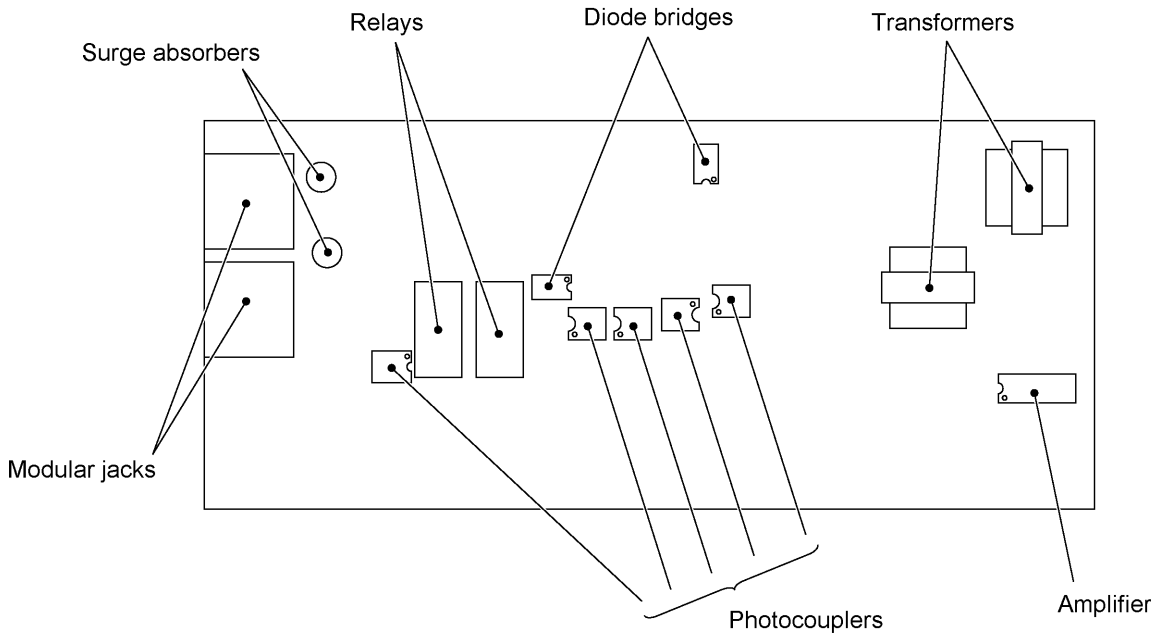
MFC9100C Asian/Oceanian versions



MFC760


LINE
Surge absorber
Dial pulse generator
Line relay
DC loop circuit
Line transformer
MAIN PCB
High-impedance transformer
MAIN PCB
EXTERNAL TELEPHONE
Calling signal detector
MAIN PCB


Surge absorbers
Relays
Diode bridges
Transformers
Modular jacks
Photocouplers
Amplifier

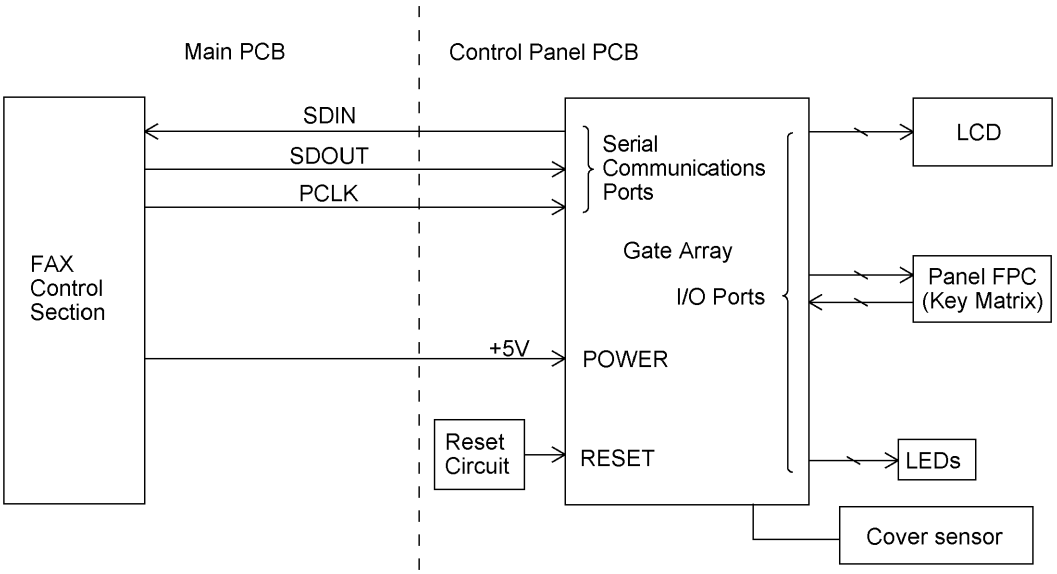
## 3.4 Control Panel PCB

The control panel PCB and the main PCB communicate with each other by serially transmitting commands and data.

The control panel unit consists of a gate array, an LCD and LEDs, which are controlled by the gate array according to commands issued from the control CPU on the main PCB.

The calendar clock is backed up by the backup circuit on the main PCB.

The panel FPC is a flexible keyboard PCB which integrates the key matrix having rubber keytops.




**Control Panel PCB and its Related Circuit**

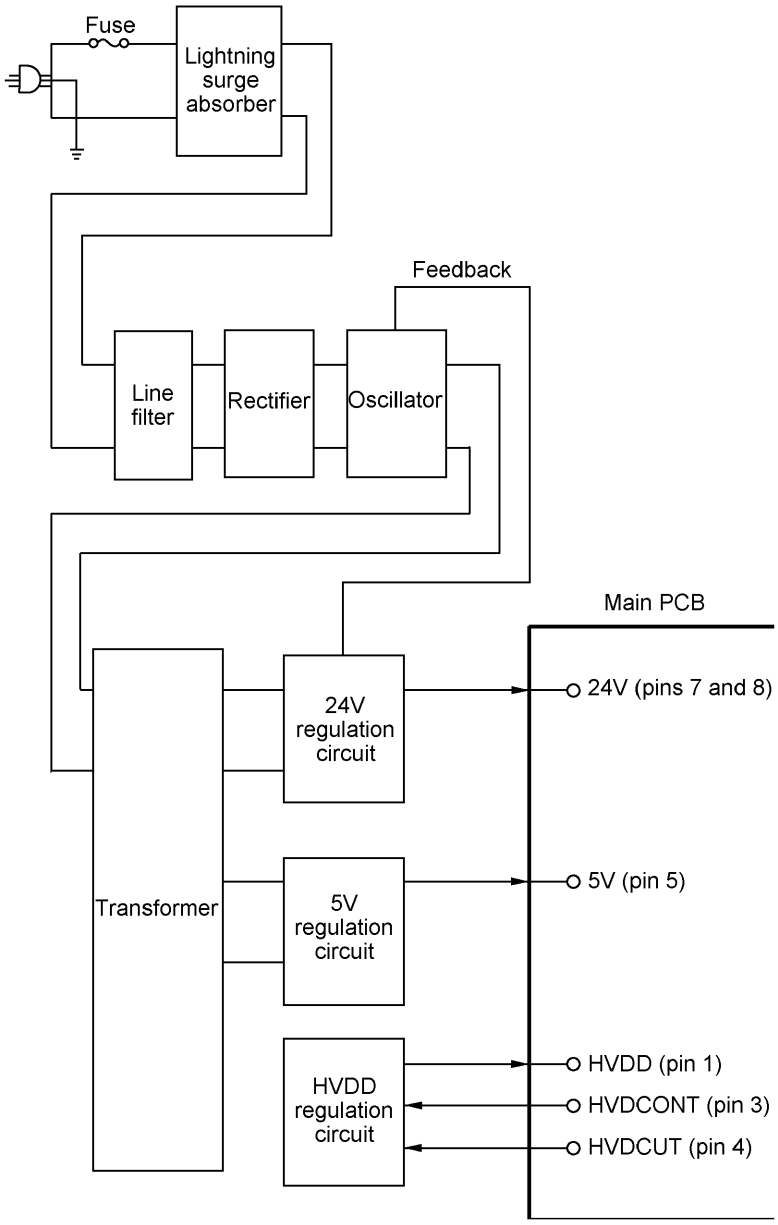
### 3.5 Power Supply PCB

The power supply uses the switching regulator to generate DC power (+24V, +5V, and HVDD) from a commercial AC power line.

The +24V source is stabilized and fed to the motors and solenoid for feeding documents and recording paper, as well as to the LED array of the CIS unit.

The +5V source is stabilized and fed to the logic, etc.

The HVDD is fed to the piezoelectric ceramic actuators embedded in the print head. It varies within 13.7V to 29.4V depending upon the temperature detected by the head thermister.




**Power Supply Circuit**

# CHAPTER IV.

## DISASSEMBLY/REASSEMBLY, LUBRICATION AND ADJUSTMENT

# CHAPTER IV. DISASSEMBLY/REASSEMBLY, LUBRICATION AND ADJUSTMENT

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# 1. DISASSEMBLY/REASSEMBLY

## n Safety Precautions

To prevent the creation of secondary problems by mishandling, observe the following precautions during maintenance work.

(1) Unplug the power cord from the power outlet before replacing parts or units. When having access to the power supply, be sure to unplug the power cord from the power outlet.

(2) Be careful not to lose screws, washers, or other parts removed for parts replacement.

(3) When using soldering irons and other heat-generating tools, take care not to damage the resin parts such as wires, PCBs, and covers.

(4) Before handling the PCBs, touch a metal portion of the equipment to discharge static electricity; otherwise, the electronic parts may be damaged due to the electricity charged in your body.

(5) When transporting PCBs, be sure to wrap them in conductive sheets such as aluminum foil.

(6) Be sure to reinsert self-tapping screws correctly, if removed.

(7) Tighten screws to the torque values listed on the following pages.

(8) When connecting or disconnecting cable connectors, hold the connector bodies not the cables. If the connector has a lock, always slide the connector lock to unlock it.

(9) Before reassembly, apply the specified lubricant to the specified points. (Refer to Section 2 in this chapter.)

(10) After repairs, check not only the repaired portion but also that the connectors and other related portions function properly before operation checks.

(11) Once the print head prints, it will start head locking operation after five seconds from the end of printing. The head locking operation will take 5 to 10 seconds. NEVER unplug the power cord before the equipment completes the head locking operation; doing so will make the print head unusable and require replacement with a new print head.

When you receive the equipment from the user or when you pack it for sending it back to the user, check the head locking state.

## Tightening Torque List

| Location | Screw type | Q'ty | Tightening torque N•m (kgf•cm) |
|---|---|---|---|
| Hinges on the document tray ASSY | Taptite, cup B M3x10 | 6 | 0.59 ±0.10 (6 ±1) |
| Document tray ASSY | Taptite, cup S M3x8 | 1 | 0.69 ±0.10 (7 ±1) |
| Rear cover | Taptite, cup S M3x10 | 3 | 0.69 ±0.10 (7 ±1) |
| Harness support | Taptite, cup B M3x8 | 2 | 0.59 ±0.10 (6 ±1) |
| Grounding wire | Taptite, cup S M3x6 | 1 | 0.69 ±0.10 (7 ±1) |
| ADF supports | Taptite, cup B M3x8 | 2 | 0.59 ±0.10 (6 ±1) |
| ADF side covers F and R | Taptite, cup S M3x8 | 2 | 0.69 ±0.10 (7 ±1) |
| ADF motor | Screw, pan (washer) M3x6DA | 2 | 0.69 ±0.10 (7 ±1) |
| ADF parts | Taptite, pan B M3x6 | 1 | 0.39 ±0.10 (4 ±1) |
| Upper ADF chute | Taptite, cup B M3x8 | 2 | 0.59 ±0.10 (6 ±1) |
| ADF motor bracket | Taptite, cup S M3x6 | 3 | 0.69 ±0.10 (7 ±1) |
| Cover sensor PCB | Taptite, cup B M3x8 | 1 | 0.59 ±0.10 (6 ±1) |
| Control panel PCB | Taptite, cup B M2.6x8 | 2 | 0.39 ±0.10 (4 ±1) |
| Key support plate | Taptite, cup B M3x6 | 6 | 0.59 ±0.10 (6 ±1) |
| Torsion bar support | Taptite, cup S M3x6 | 2 | 0.69 ±0.10 (7 ±1) |
| Hinges on the scanner unit | Taptite, bind B M4x12 | 4 | 0.98 ±0.10 (10 ±1) |
| Scanner top cover | Taptite, cup B M4x12 | 4 | 0.98 ±0.10 (10 ±1) |
| CCD rail clamp | Taptite, cup B M3x8 | 1 | 0.59 ±0.10 (6 ±1) |
| CCD idle pulley holder | Taptite, pan B M3x10 | 2 | 0.59 ±0.10 (6 ±1) |
| CCD motor bracket | Taptite, cup B M3x8 | 3 | 0.59 ±0.10 (6 ±1) |
| CCD motor | Screw, pan (washer) M3x6DA | 2 | 0.69 ±0.10 (7 ±1) |
| Flat cable clamp | Taptite, cup B M3x8 | 4 | 0.59 ±0.10 (6 ±1) |
| Guide plate | Taptite, cup B M3x8 | 4 | 0.59 ±0.10 (6 ±1) |
| Cover sheet | Taptite, cup S M3x6 | 1 | 0.69 ±0.10 (7 ±1) |
| Rear frame | Taptite, cup S M3x6 | 4 | 0.69 ±0.10 (7 ±1) |
| Hinges on the rear frame | Taptite, cup S M3x6 | 4 | 0.69 ±0.10 (7 ±1) |
| Inner cover | Taptite, cup S M3x10 | 1 | 0.69 ±0.10 (7 ±1) |
| Front cover | Taptite, cup S M3x6 | 2 | 0.69 ±0.10 (7 ±1) |
| Side cover L | Taptite, cup S M3x6 | 2 | 0.69 ±0.10 (7 ±1) |
| VC connector PCB | Taptite, cup B M3x8 | 1 | 0.59 ±0.10 (6 ±1) |
| VC grounding bracket | Taptite, cup S M3x6 | 1 | 0.69 ±0.10 (7 ±1) |
| Side cover R | Taptite, cup S M3x6 | 1 | 0.69 ±0.10 (7 ±1) |
| Speaker | Taptite, cup B M4x10 | 2 | 0.78 ±0.10 (8 ±1) |
| NCU bracket | Taptite, cup S M3x6 | 2 | 0.69 ±0.10 (7 ±1) |
| NCU PCB | Taptite, cup S M3x6 | 1 | 0.59 ±0.10 (6 ±1) |
| Power supply PCB | Taptite, cup S M3x6 | 4 | 0.59 ±0.10 (6 ±1) |
| AC cord grounding wire | Screw, pan (washer) M4x8DB | 1 | 0.59 ±0.10 (6 ±1) |
| Interface connector | Machine screw, pan M3x6 | 2 | 0.59 ±0.10 (6 ±1) |

| Location | Screw type | Q'ty | Tightening torque N•m (kgf•cm) | |
|---|---|---|---|---|
| Main PCB | Taptite, cup S M3x6 | 4 | 0.59 ±0.10 | (6 ±1) |
| PCB support plate | Taptite, cup S M3x6 | 2 | 0.69 ±0.10 | (7 ±1) |
| Purge unit | Screw, pan (washer) M3x6DB | 2 | 0.69 ±0.10 | (7 ±1) |
| Platen frame | Taptite, cup S M3x6 | 1 | 0.69 ±0.10 | (7 ±1) |
| Cable clip | Taptite, cup S M3x6 | 1 | 0.59 ±0.10 | (6 ±1) |
| Main chassis | Taptite, cup S M3x6 | 8 | 0.69 ±0.10 | (7 ±1) |
| Lower paper chute | Taptite, cup B M4x10 | 2 | 0.98 ±0.10 | (10 ±1) |
| Tension plate ASSY | Screw, pan (washer) M3x8DB | 1 | 0.69 ±0.10 | (7 ±1) |
| Paper feed motor | Screw, pan (washer) M3x8DB | 2 | 0.69 ±0.10 | (7 ±1) |
| Paper ejection roller | Screw, pan (washer) M2.6x8DB | 1 | 0.29 ±0.10 | (3 ±1) |
| Idle pulley stopper | Screw, pan (washer) M3x8DB | 1 | 0.69 ±0.10 | (7 ±1) |
| Eccentric bushings L and R | Screw, pan (washer) M3x8DB | 2 | 0.69 ±0.10 | (7 ±1) |
| Carriage motor | Screw, pan (washer) M3x6DB | 2 | 0.69 ±0.10 | (7 ±1) |
| Drain tank | Taptite, cup S M3x6 | 1 | 0.69 ±0.10 | (7 ±1) |
| Bottom plate | Taptite, cup S M3x6 | 4 | 0.69 ±0.10 | (7 ±1) |
| PF side frame L | Taptite, cup S M3x6 | 2 | 0.69 ±0.10 | (7 ±1) |
| PF side frame R | Taptite, cup S M3x6 | 2 | 0.69 ±0.10 | (7 ±1) |
| | Taptite, cup B M3x10 | 2 | 0.59 ±0.10 | (6 ±1) |
| Paper width/registration sensor PCB | Taptite, cup B M2.6x8 | 1 | 0.39 ±0.10 | (4 ±1) |

## n Preparation

Prior to proceeding to the disassembly procedure,

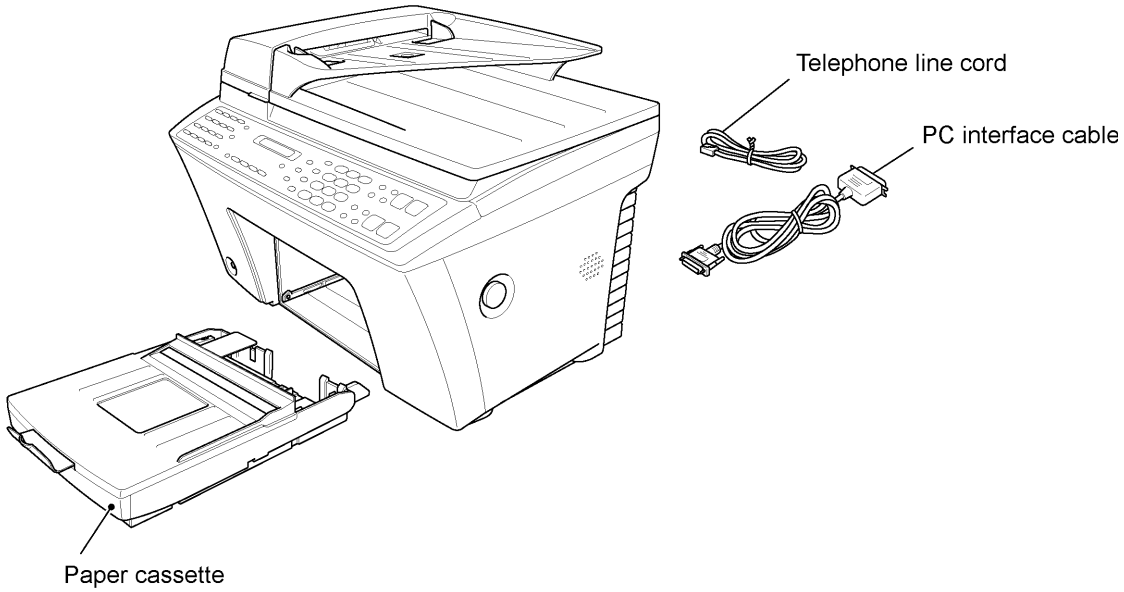
(1) Unplug

- the modular jack of the telephone line,
- the PC interface cable, and
- the modular jack of an external telephone set if connected. (Not shown below.)

(2) Remove

- the paper cassette (by lifting up its front end slightly and pulling it out).

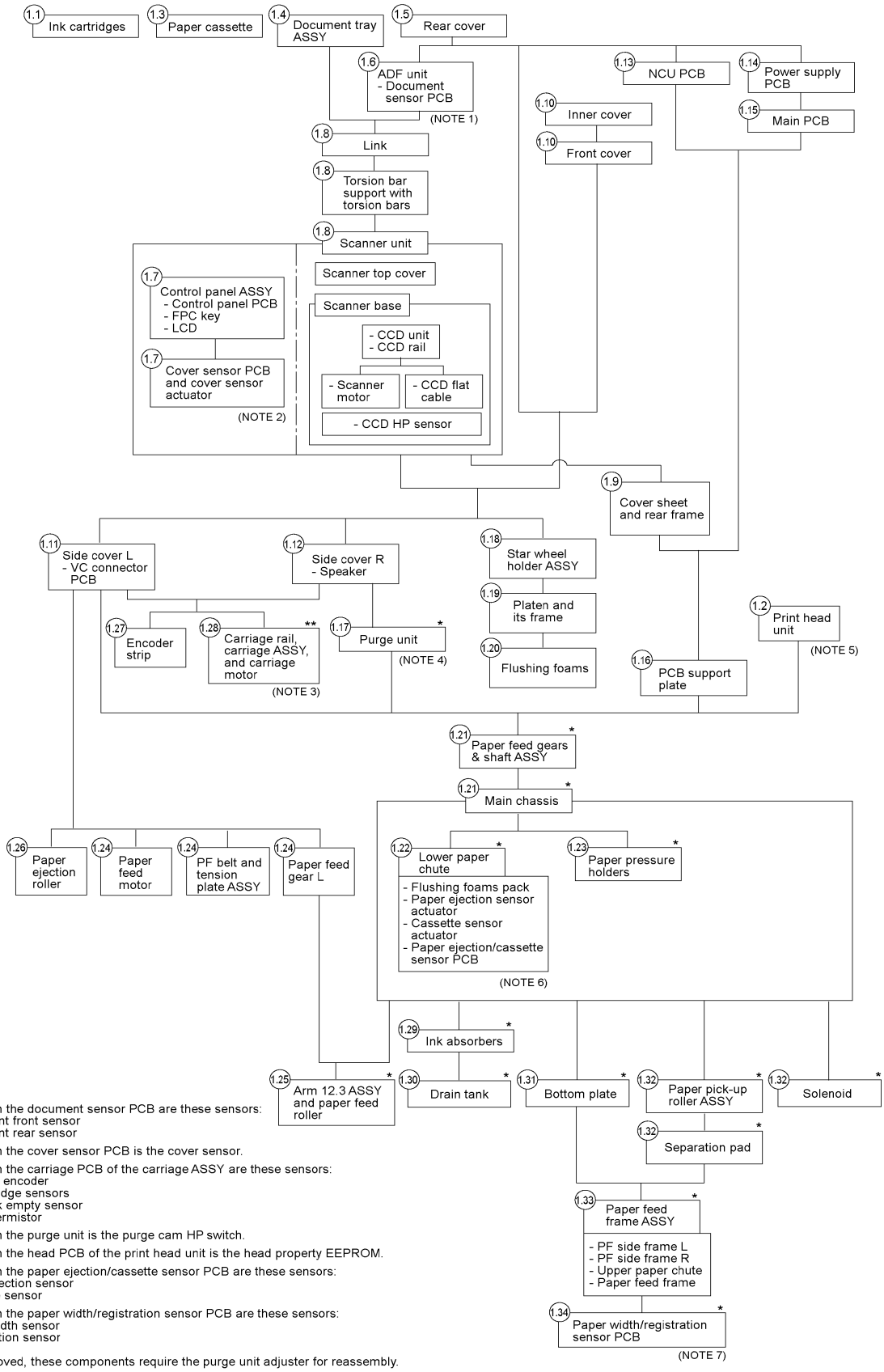
**NOTE:** Do not remove the ink cartridges when disassembling the equipment except when removing the print head.




## n How to Access the Object Component

- On the next page is a disassembly order flow which helps you access the object components. To remove the paper feed motor, for example, first find it on the flow and learn its number (1.24 in this case). You need to remove parts numbered 1.4, 1.5, 1.6, 1.8, 1.10, and 1.11 so as to access the paper feed motor.
- Unless otherwise specified, the disassembled parts or components should be reassembled in the reverse order of removal.

## n Disassembly Order Flow


1.1 Ink cartridges
1.3 Paper cassette
1.4 Document tray ASSY
1.5 Rear cover
1.6 ADF unit - Document sensor PCB
(NOTE 1)
1.13 NCU PCB
1.14 Power supply PCB
1.10 Inner cover
1.15 Main PCB
1.10 Front cover
1.8 Link
1.8 Torsion bar support with torsion bars
1.8 Scanner unit
1.7 Control panel ASSY - Control panel PCB - FPC key - LCD
1.7 Cover sensor PCB and cover sensor actuator
(NOTE 2)
Scanner top cover
Scanner base
- CCD unit - CCD rail
- Scanner motor
- CCD flat cable
- CCD HP sensor
1.9 Cover sheet and rear frame
1.11 Side cover L - VC connector PCB
1.12 Side cover R - Speaker
1.18 Star wheel holder ASSY
1.19 Platen and its frame
1.20 Flushing foams
1.2 Print head unit
(NOTE 5)
1.27 Encoder strip
1.28 Carriage rail, carriage ASSY, and carriage motor **
(NOTE 3)
1.17 Purge unit *
(NOTE 4)
1.16 PCB support plate
1.21 Paper feed gears & shaft ASSY *
1.21 Main chassis *
1.26 Paper ejection roller
1.24 Paper feed motor
1.24 PF belt and tension plate ASSY
1.24 Paper feed gear L
1.22 Lower paper chute *
- Flushing foams pack
- Paper ejection sensor actuator
- Cassette sensor actuator
- Paper ejection/cassette sensor PCB
(NOTE 6)
1.23 Paper pressure holders *
1.29 Ink absorbers *
1.25 Arm 12.3 ASSY and paper feed roller *
1.30 Drain tank *
1.31 Bottom plate *
1.32 Paper pick-up roller ASSY *
1.32 Solenoid *
1.32 Separation pad *
1.33 Paper feed frame ASSY *
- PF side frame L
- PF side frame R
- Upper paper chute
- Paper feed frame
1.34 Paper width/registration sensor PCB *
(NOTE 7)

(NOTE 1) On the document sensor PCB are these sensors:
- Document front sensor
- Document rear sensor

(NOTE 2) On the cover sensor PCB is the cover sensor.

(NOTE 3) On the carriage PCB of the carriage ASSY are these sensors:
- Carriage encoder
- Ink cartridge sensors
- Black ink empty sensor
- Head thermistor

(NOTE 4) On the purge unit is the purge cam HP switch.

(NOTE 5) On the head PCB of the print head unit is the head property EEPROM.

(NOTE 6) On the paper ejection/cassette sensor PCB are these sensors:
- Paper ejection sensor
- Cassette sensor

(NOTE 7) On the paper width/registration sensor PCB are these sensors:
- Paper width sensor
- Registration sensor

* Once removed, these components require the purge unit adjuster for reassembly.

** Once these components are removed, it is recommended that the gap adjustment iig be used for accurate head-platen gap.

## 1.1 Ink Cartridges

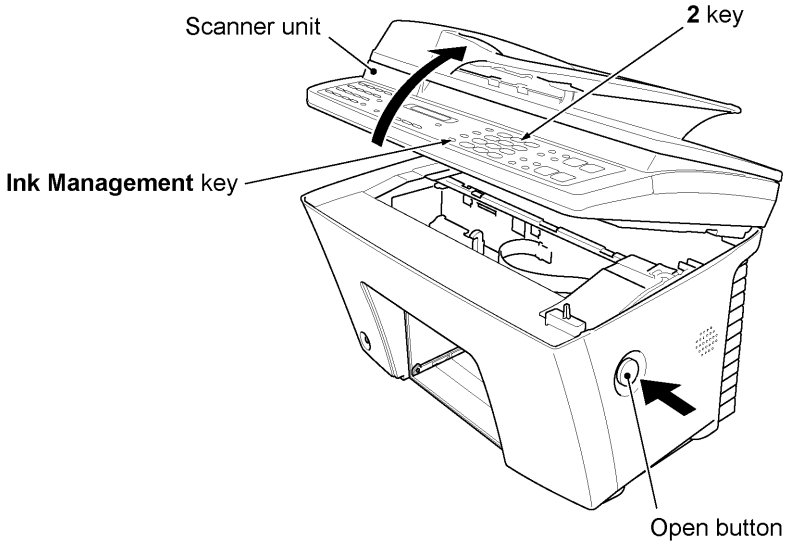
**During disassembly jobs (except when removing the print head), all of the four ink cartridges should be kept in place. The following ink cartridge replacement procedure should apply only when you replace ink cartridges. When replacing the print head, do not apply this procedure but the procedure given in Section 1.2.**

(1) Plug the power cord into a wall socket.

(2) If any ink empty message (INK EMPTY BLACK, CYAN, MAGENT, or YELLOW) and "PLS OPEN COVER" are displayed alternately on the LCD, press the open button to open the scanner unit in order to place the equipment in the ink cartridge replacement mode.

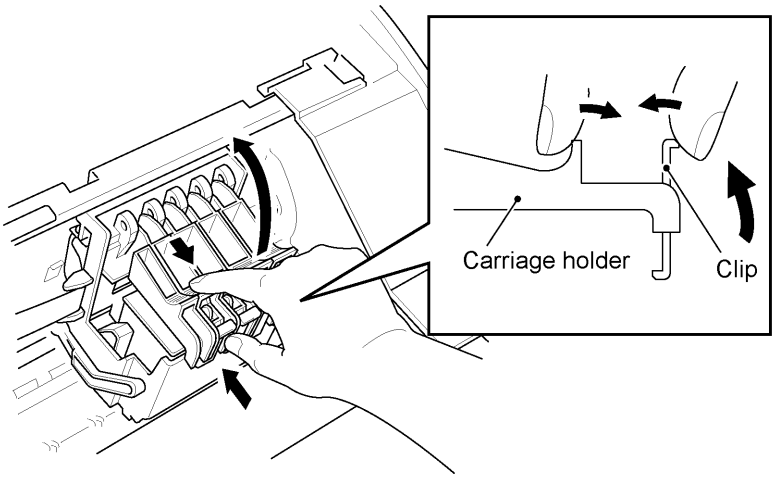
If any ink near-empty message (NEAR EMPTY BLACK, CYAN, MAGENT, or YELLOW) or no message is displayed on the LCD, follow the steps below in order to place the equipment in the ink cartridge replacement mode.

1) Press the **Ink Management** key.
2) Press the **2** key.
3) Press the open button to open the scanner unit.



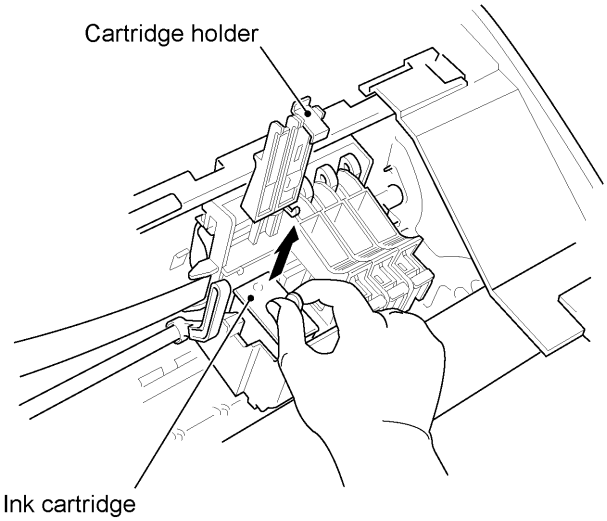

The carriage automatically moves left to the ink cartridge replacement position.

(3) Pull up the cartridge holder of the ink cartridge to be replaced by pinching its clip with your fingers.



(4) Take out the ink cartridge from the print head.

**NOTE:** When handling ink cartridges, do not touch their orifices which may stain your hands or clothing with ink.




(5) Load a new or removed ink cartridge. Be sure to snap it into place.

**NOTE:** When using a new cartridge, first open the cartridge bag, take out the cartridge, and remove the sealing tape gently.

(6) Close the cartridge holder until it clicks into place.

(7) Close the scanner unit.

For each of the ink cartridges loaded, the confirmation message will appear as shown below, asking you whether the ink dot counter should be reset to zero.

```
DID YOU CHANGE
CYAN? 1.YES 2.NO
```

In this area appears CYAN, BLCK, YELW, or MGTA.

If you have loaded a new ink cartridge in step (5), press the **1** key to reset the ink dot counter; if you have reloaded the removed one, press the **2** key.

**NOTE:** Pressing the **1** key although you have reloaded the removed one could cause inkless printing.

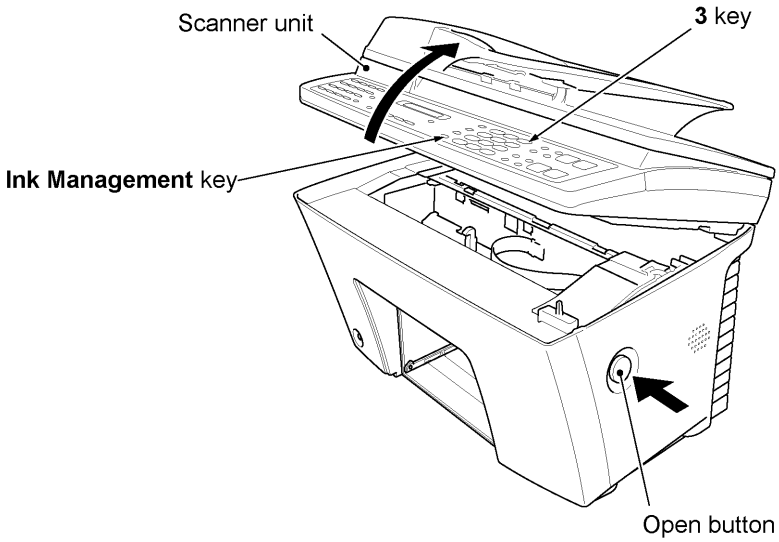
(8) The equipment automatically enters the purge mode. Select the related ink-jet unit(s) of the print head for purging air bubbles .

## 1.2 Print Head Unit

**During disassembly jobs (except when removing the purge unit, carriage rail or carriage ASSY), the print head and all the four ink cartridges should be kept in place.**

(1) Plug the power cord into a wall socket.

(2) Open the scanner unit and then press the **Ink Management** key.

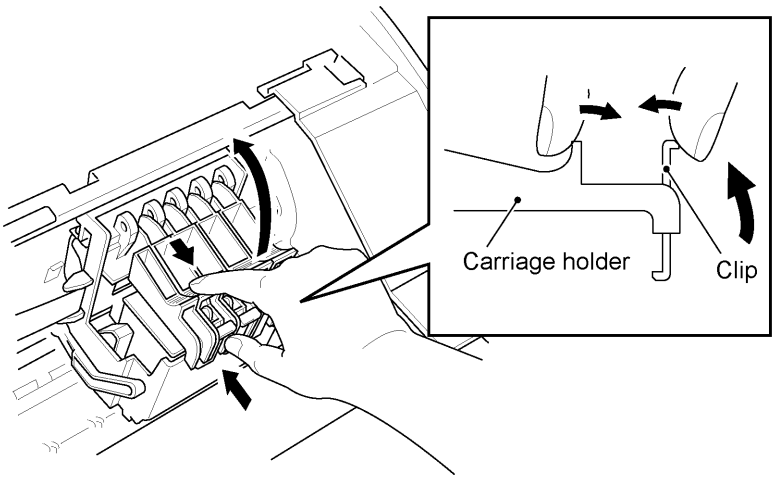



(3) Press the **3** key.

```
REMOVE ALL INKS
AND PRINT HEAD
```

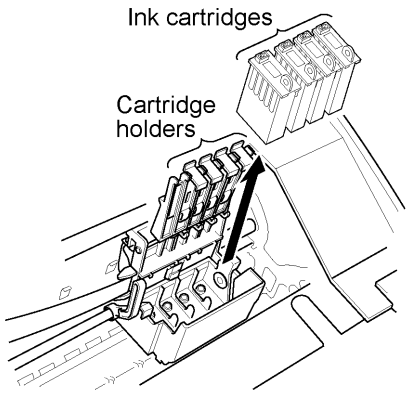
The carriage automatically moves to the head replacement position (to the left from the home position).

(4) Pull up all cartridge holders by pinching their clips with your fingers.



(5) Remove all ink cartridges, one at a time.

**NOTE:** When handling ink cartridges, do not touch their nozzles which may stain your hands or clothing with ink.



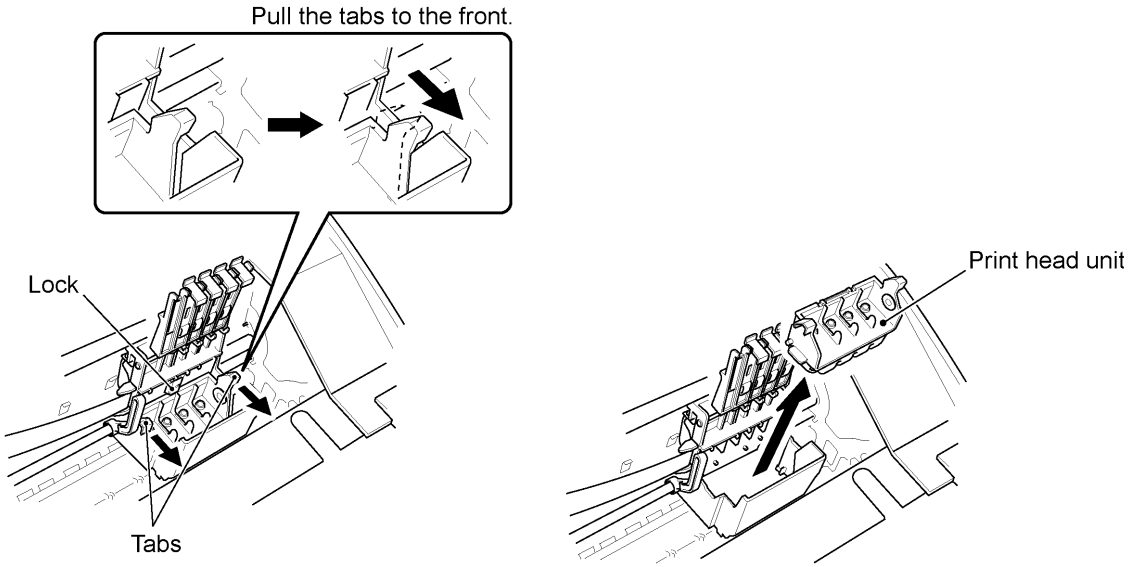

(6) Pull the tabs of the print head unit to the front in order to release the rear edge of the print head unit from the lock provided on the carriage. Then lift the print head unit up and out of the carriage.

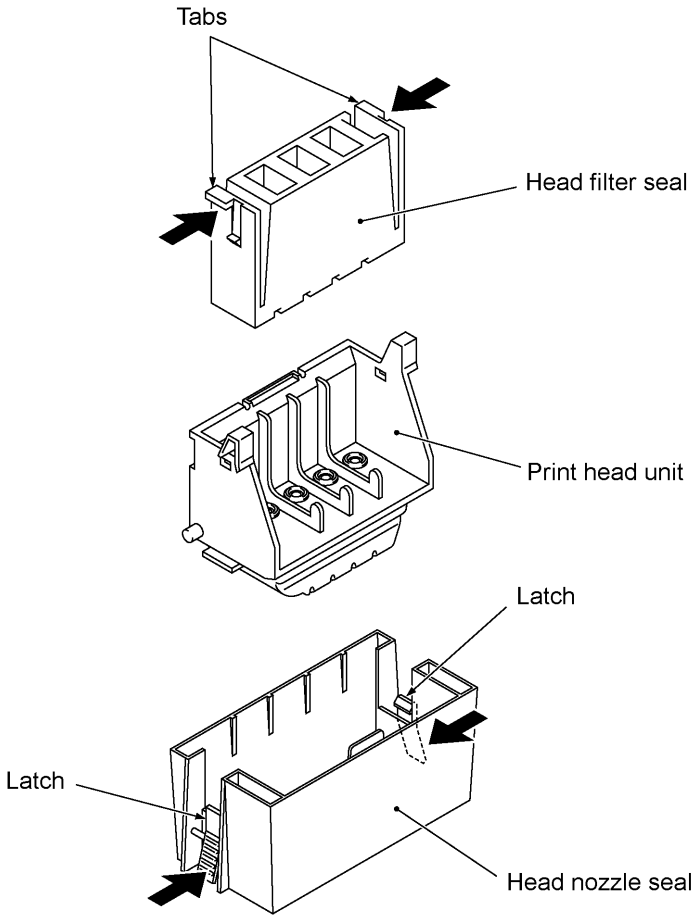
```
INSTALL HEAD
AND CARTRIDGES
```

**NOTE:** Do not touch the printing ends (nozzles) of the print head; doing so will stain your hands with ink.

**NOTE:** Be sure to put a head nozzle seal and filter seal on the print head as shown on the next page. Leaving the print head without those seals will dry up its printing ends and filters, resulting in a damaged head.

**NOTE:** Do not touch the control board provided on the rear side of the print head.






(7) If the head cap has collected ink, clean it with a head cleaner. If the surrounding parts are stained with ink, wipe them off with a clean cloth.

(8) To install a new (or removed) print head unit, take off the yellow head nozzle seal and then put the print head unit onto the carriage, taking care not to touch the control board provided on the rear side of the print head.

(9) Push the tabs of the print head unit to the rear until it locks into place.

(10) Remove the yellow head filter seal from the print head unit, then load ink cartridges in the order of black, yellow, cyan, and magenta. Be sure to snap them into place.

(11) Close the cartridge holders until they click into place.

(12) Close the scanner unit.

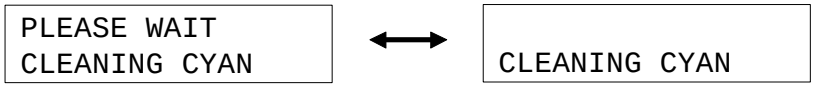
For each of the ink cartridges loaded, the confirmation message will appear as shown below, asking you whether you loaded a new cartridge.

```
DID YOU CHANGE
CYAN? 1.YES 2.NO
```

(13) If you have loaded a new cartridge, press the **1** key within one minute. The ink dot counter will be reset to zero.

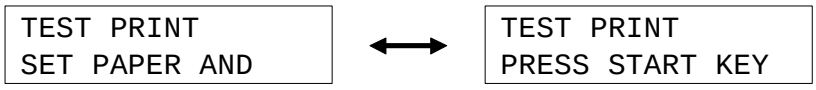
If you have reloaded the removed one, press the **2** key within one minute.

(14) The equipment automatically carries out purging operation for each ink-jet unit of the print head.



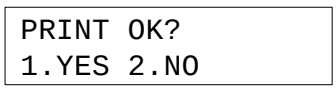

(Steps (15) through (18) given below will be skipped if you have reinstalled the removed print head unit.)

(15) Upon completion of purging operation, the following messages appear alternately:




Make sure that paper is loaded in the paper cassette and it is set in place, then press the **Start** key.

The equipment prints "Nozzle check pattern sheet" and then shows the following message:




(16) Check the print quality, following the instructions given on "Nozzle check pattern sheet."

If the print quality is OK, press the **1** key and proceed to step (17).

If any of the horizontal lines are missing or no-print areas are found between color blocks, press the **2** key within one minute, and go back to step (14).

Pressing neither key within one minute makes the equipment proceed to step (17).

(17) The following messages appear alternately:

Make sure that paper is loaded in the paper cassette, then press the **Start** key within one minute. The equipment prints "Vertical alignment check pattern sheet."

If the **Start** key is not pressed within one minute, the equipment automatically returns to the initial stage of the maintenance mode.

(18) According to the instructions given on "Vertical alignment check pattern sheet," adjust the alignment of vertical print lines.

### 1.3 Paper Cassette

You may remove the parts from the paper cassette as follows:

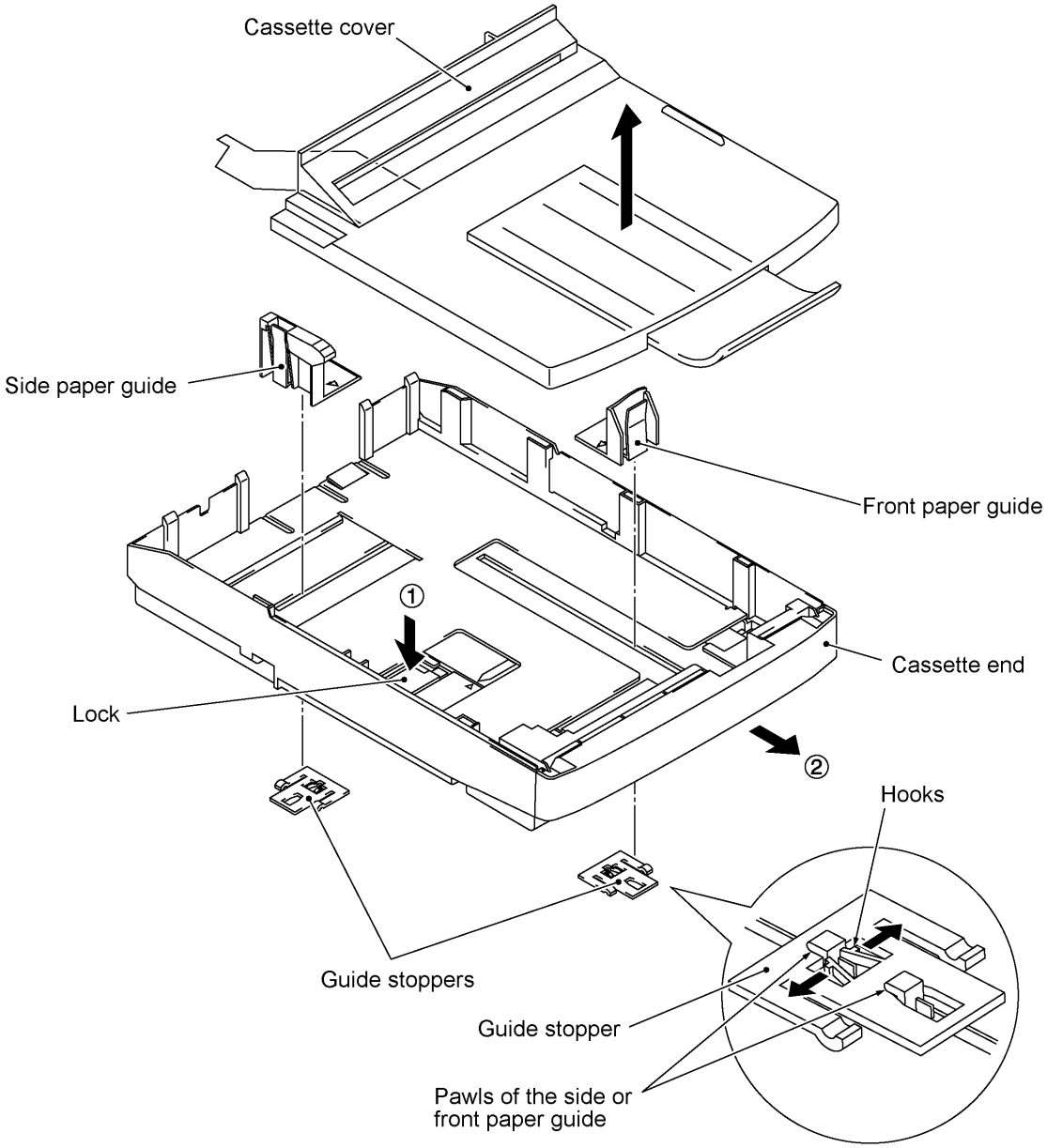
(1) Remove the cassette cover.

(2) To remove the front paper guide, lightly press the lock in the direction of arrow • and pull out the cassette end in the direction of arrow , until it stops.

Turn the paper cassette upside down.

Then pull the hooks of the guide stopper outwards and release the guide stopper from the pawls of the front paper guide.

(3) To remove the side paper guide, pull the hooks of the guide stopper outwards and release the guide stopper from the pawls of the side paper guide.

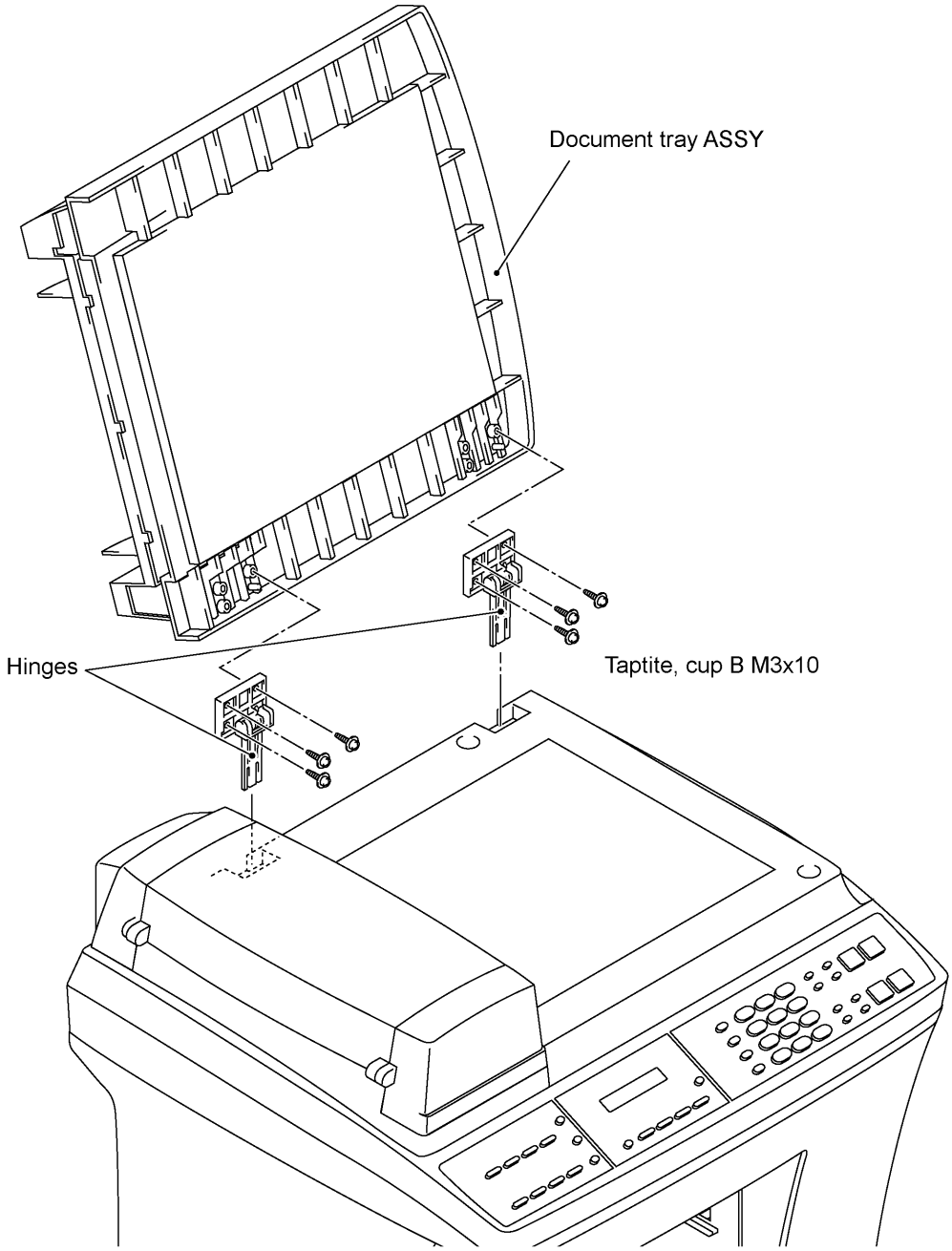


### 1.4 Document Tray ASSY

(1) Fully open the document tray ASSY.

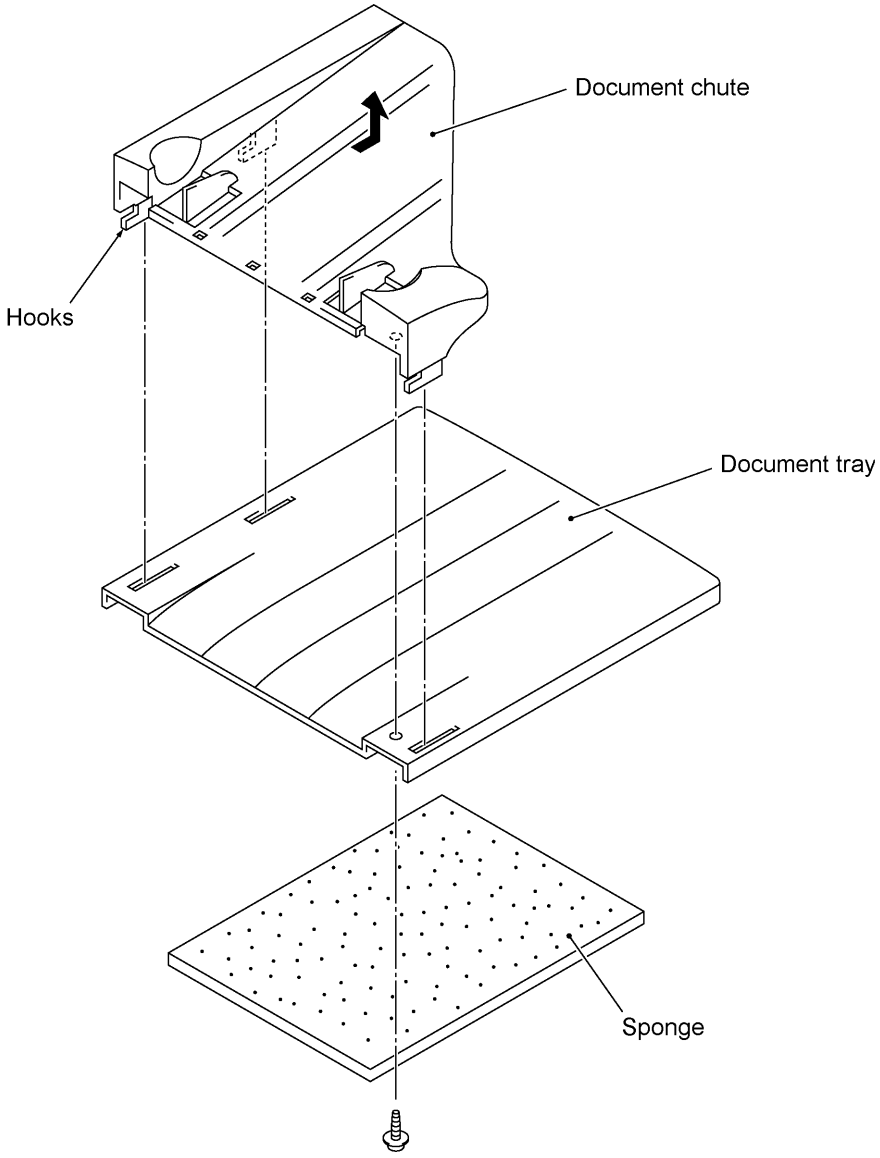
(2) Lift up the document tray ASSY straight and take the hinges out of the scanner unit.

(3) Remove the three screws from each of the hinges.



(4) Remove the screw, then lightly tap the left end of the document chute to release the three hooks from the document tray.

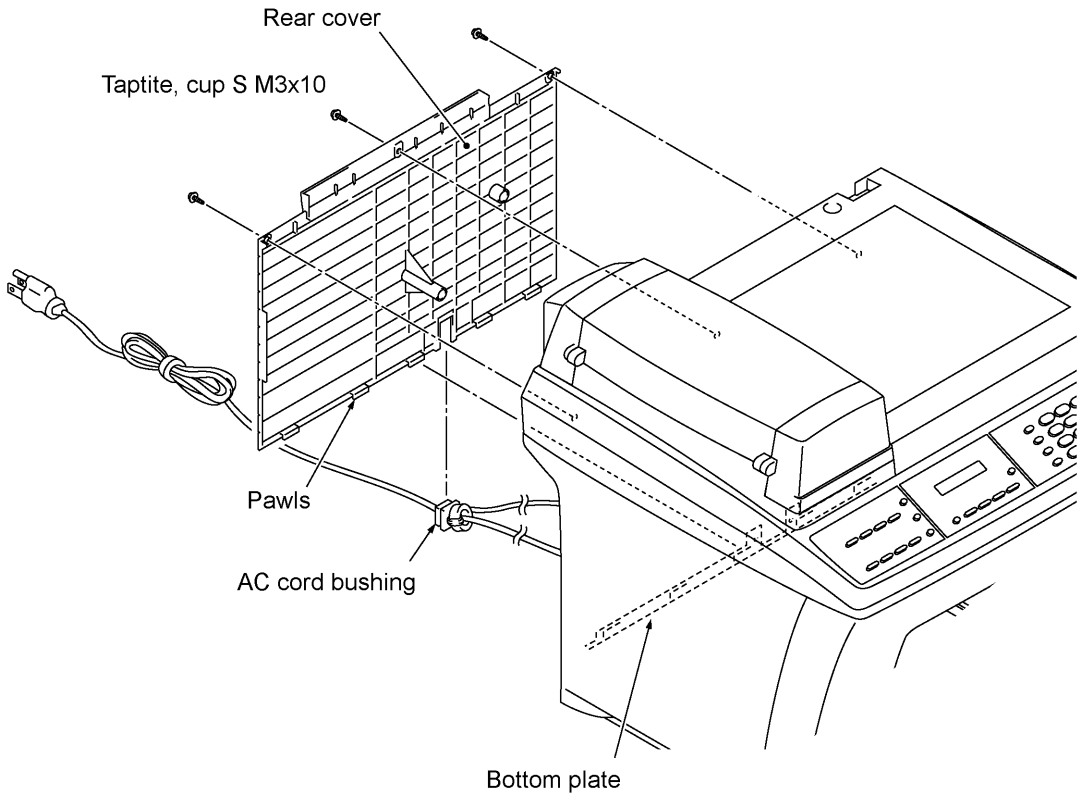
(5) Remove the sponge.



### 1.5 Rear Cover

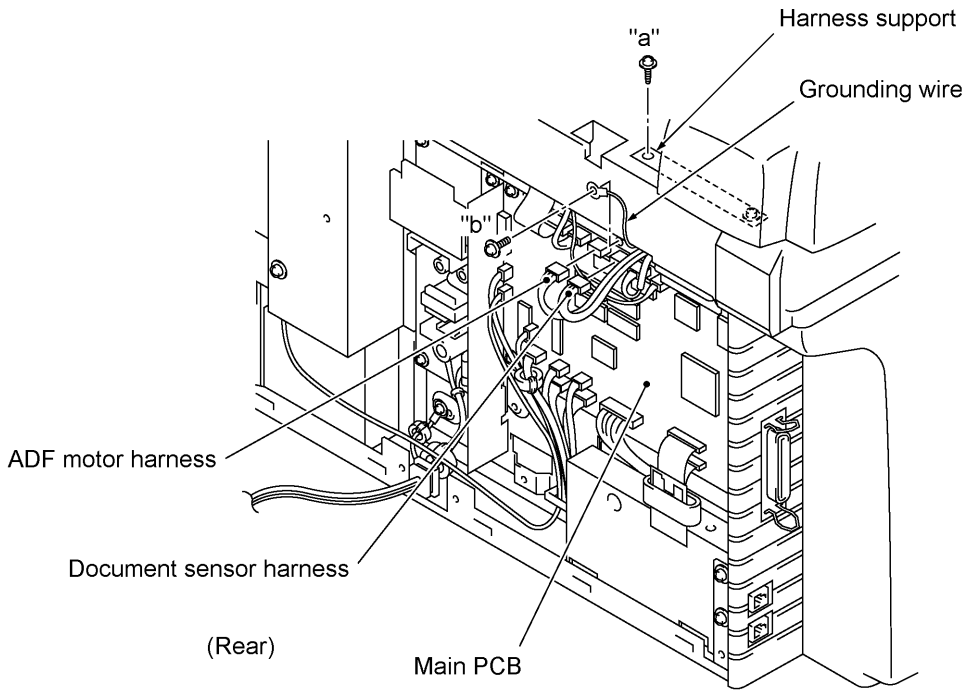
(1) Remove the three screws and unhook the five pawls from the bottom plate.

(2) Remove the AC cord bushing from the rear cover.



### 1.6 ADF Unit

(1) Remove screw "a" from the harness support.
(2) Remove screw "b" to release the grounding wire.
(3) Disconnect the ADF motor harness and document sensor harness from the main PCB.



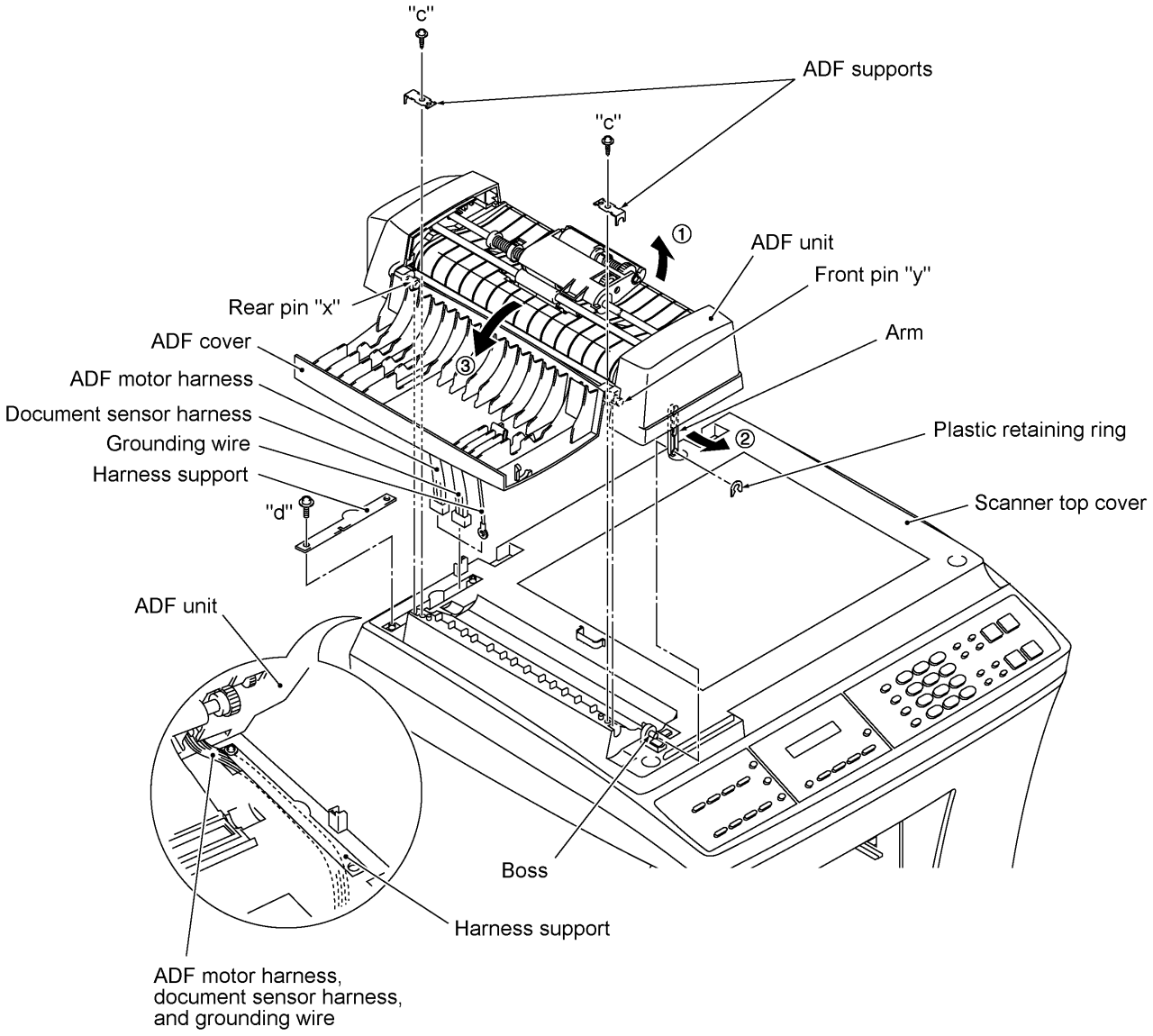

"a": Taptite, cup B M3x8
"b": Taptite, cup S M3x6

(4) Open the ADF unit (in the direction of arrow •), remove the plastic retaining ring, and release the arm (arrow ❟) from the boss provided on the scanner top cover.

(5) Open the ADF cover (arrow ƒ) and remove two screws "c."

(6) Lift up the ADF unit. The ADF supports also come off.

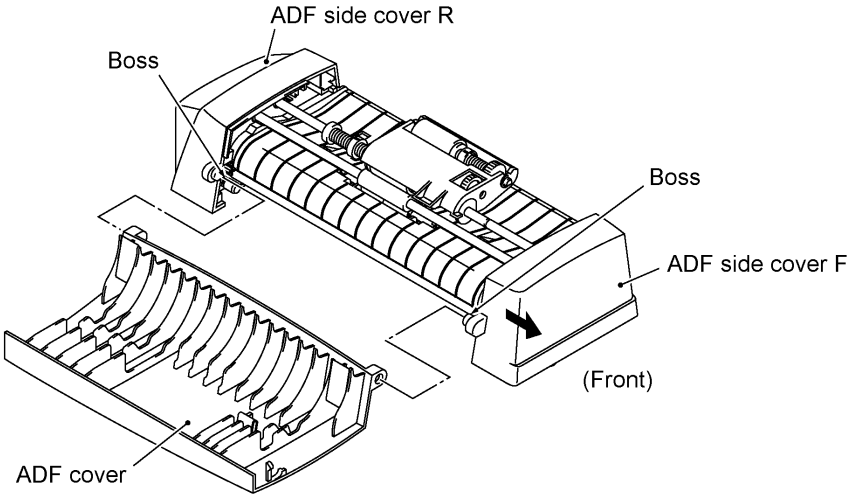
(7) Remove screw "d" from the harness support.




"c" and "d": Taptite, cup B M3x8

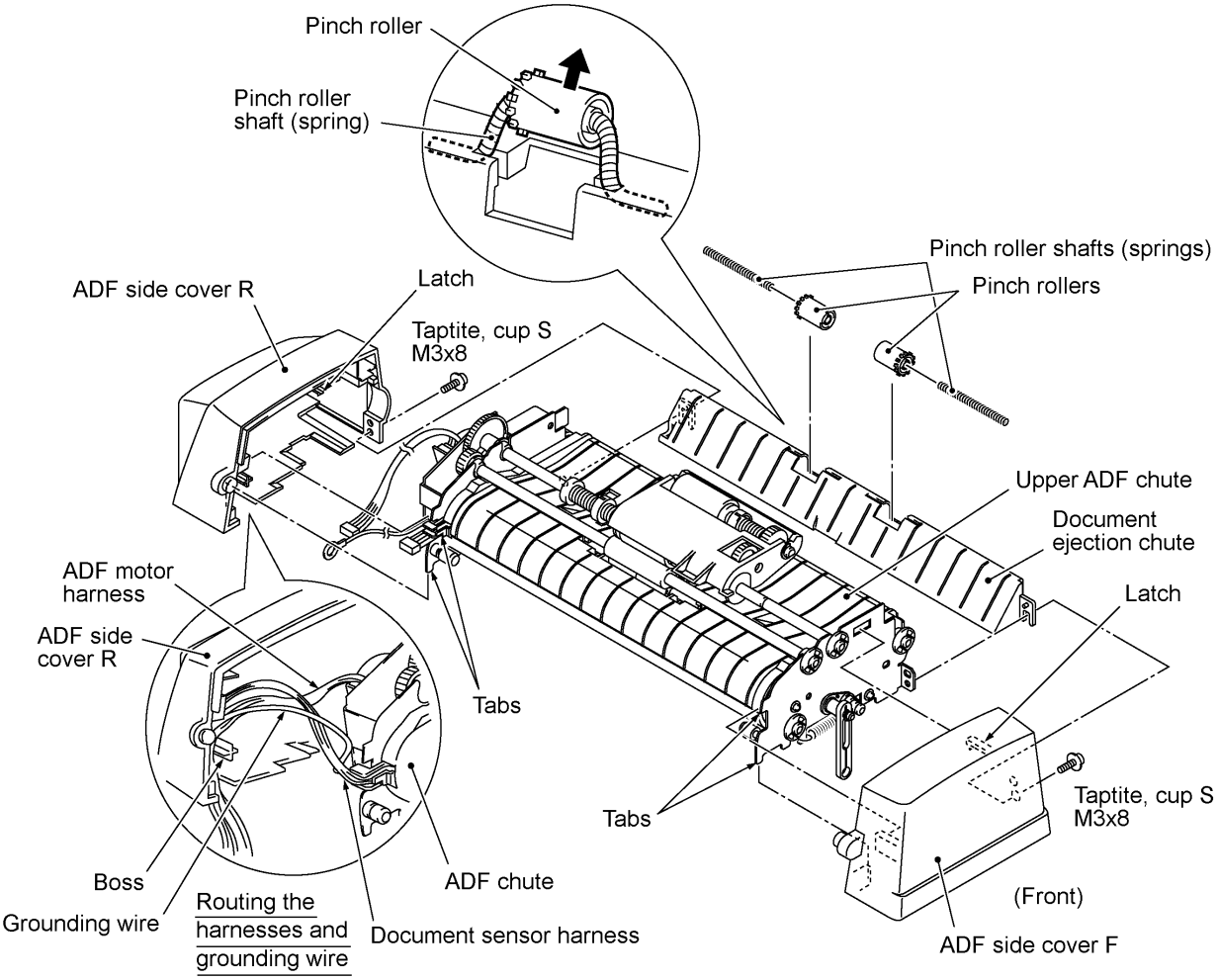
## n Disassembling the ADF unit

1) Open the ADF cover. Pull the ADF side cover outwards and release the ADF cover from the bosses provided on the ADF side covers.




2) At each of the ADF side covers F and R, remove the screw, pull the unscrewed corner outwards to release it from the document ejection chute, and unhook the latch.

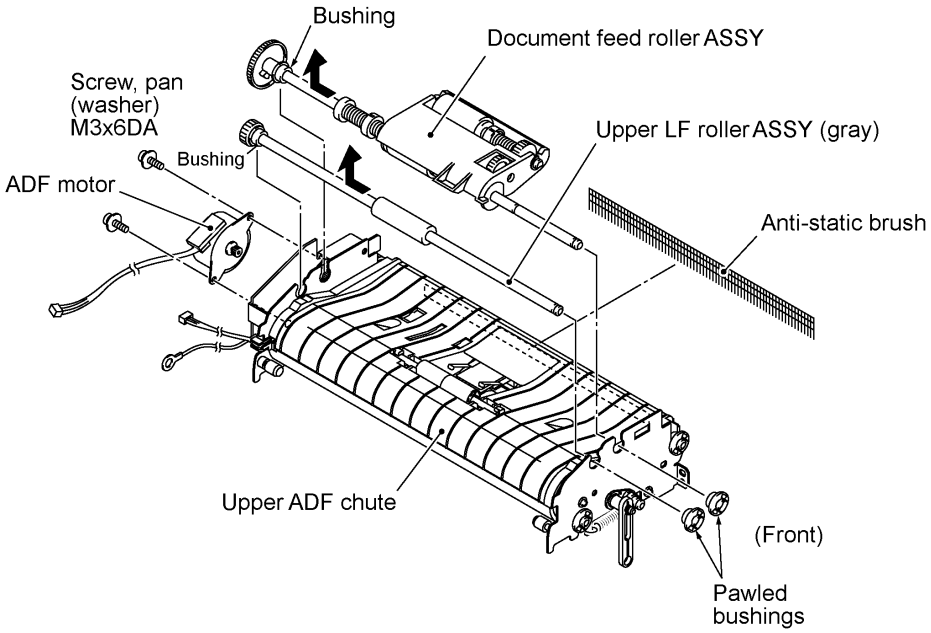
3) Remove the document ejection chute (which has been secured with the screws removed in step 2) above).



4) At the front end of the document feed roller shaft, remove the pawled bushing by pulling its pawls outwards. At the rear end, pull the bushing outwards and lift up the document feed roller ASSY.

5) At the front end of the upper LF roller (gray) shaft, remove the pawled bushing by pulling its pawls outwards. At the rear end, pull the bushing outwards and lift up the upper LF roller ASSY.

6) Remove the two screws and take off the ADF motor.



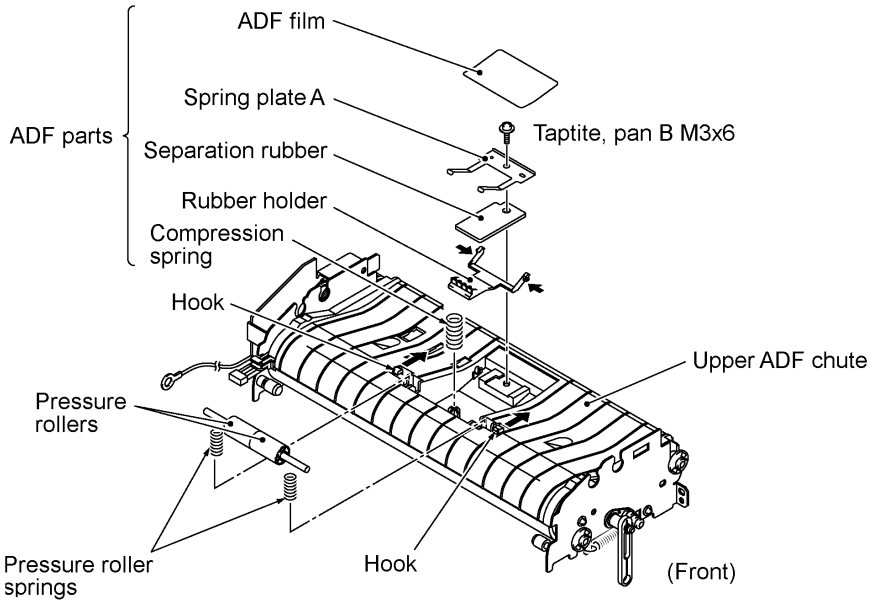

If you do not need to remove the ADF parts, skip to step 10).

7) Peel off the ADF film.

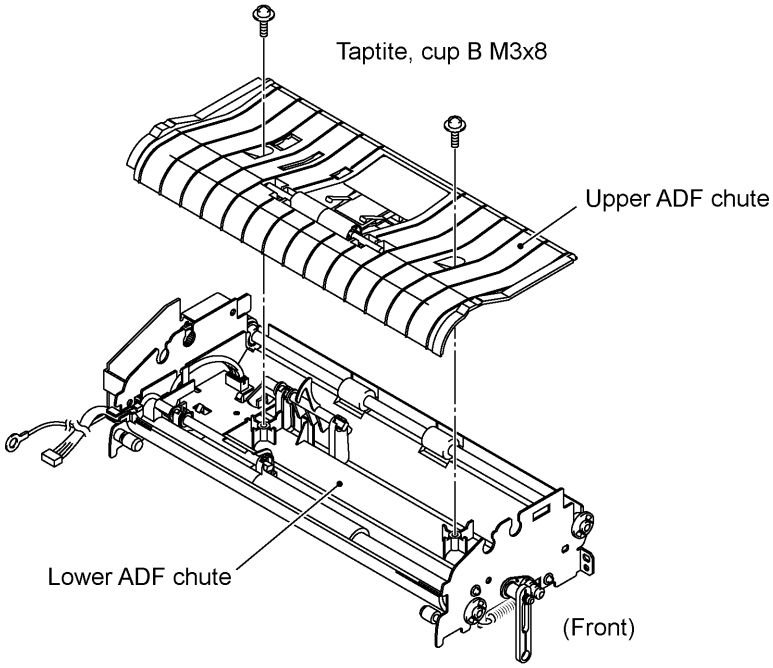
**NOTE:** Once removed, the ADF film will become unusable and a new part will have to be put back in.

8) Remove the screw and take off the spring plate A, separation rubber, rubber holder, and compression spring.

9) Push the hooks provided on the upper ADF chute and remove the pressure rollers and their springs.



10) Remove the two screws and lift up the upper ADF chute.

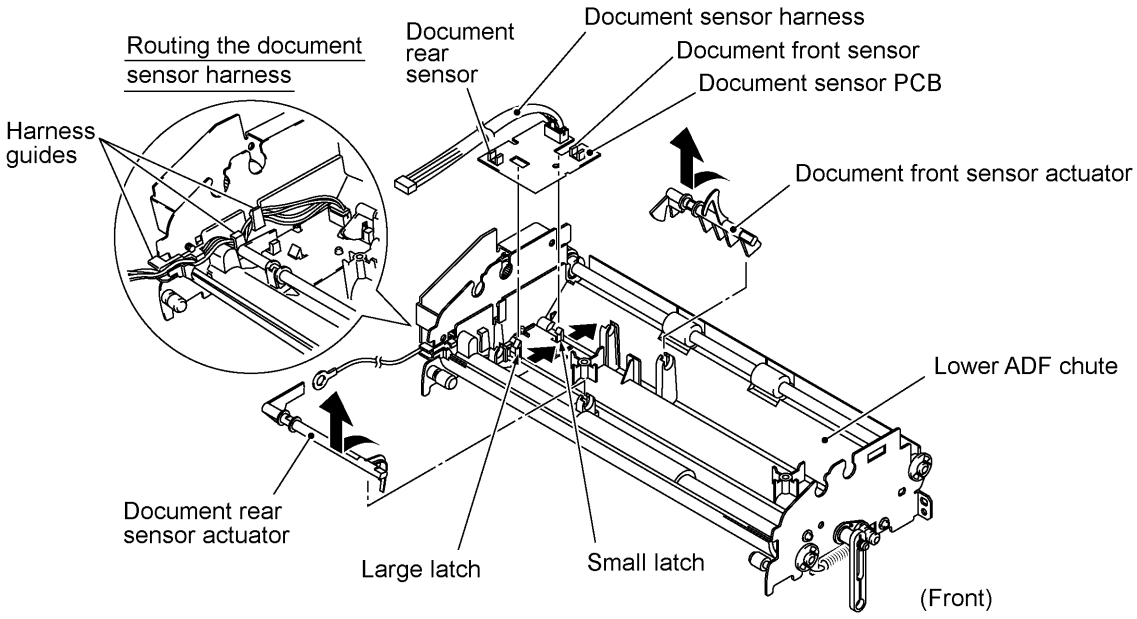



11) Turn the document front sensor actuator as shown below and lift it up.

12) Turn the document rear sensor actuator as shown below and lift it up.

13) Disconnect the document sensor harness from the document sensor PCB and take out its harness from the harness guides.

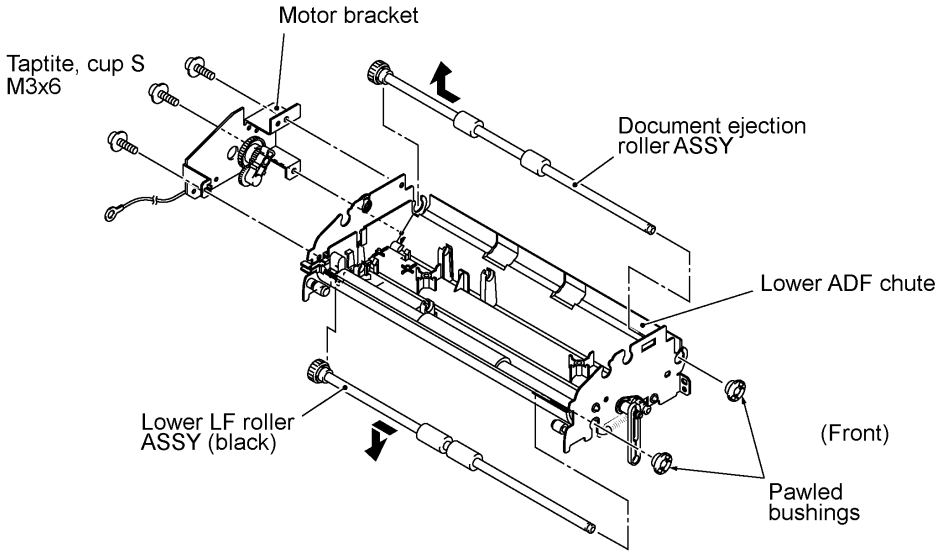
14) Unhook the two latches (large and small latches in this order) from the document sensor PCB and lift it up.



15) At the front end of the document ejection roller shaft, remove the pawled bushing by pulling its pawls outwards. At the rear end, pull the bushing outwards and lift up the document ejection roller ASSY.

16) Remove the three screws and take off the motor bracket.

17) At the front end of the lower LF roller (black) shaft, remove the pawled bushing by pulling its pawls outwards. At the rear end, pull the bushing outwards and remove the lower LF roller ASSY.




18) Turn the lower ADF chute upside down.

19) Pull the arm outwards and take it off.

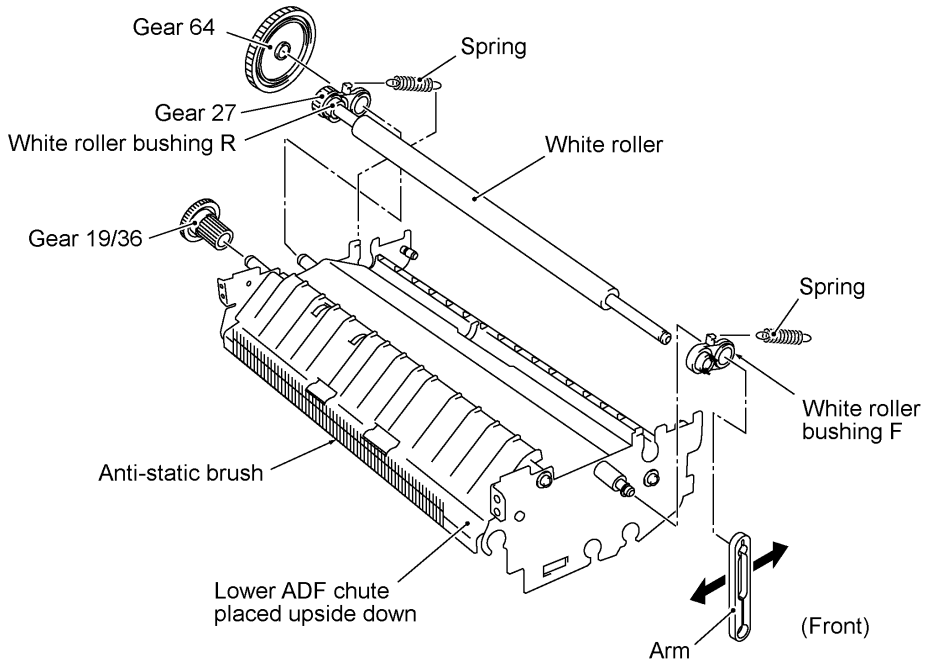
20) At the rear side of the lower ADF chute, remove the gear 19/36 by pulling its pawl outwards.

21) Remove the gear 64 by pulling its pawl outwards.

22) Unhook the two springs.

23) Pull out the white roller bushing F by pulling its pawls outwards.

24) Remove the white roller together with the white roller bushing R and gear 27.



**n Reassembling Notes**

- Take care not to mistake the upper LF roller ASSY (gray) for the lower LF roller ASSY (black).
- When setting the document sensor PCB back into place, do not push it down straight, but first fit the PCB in the large latch and then fit it in the small latch (see the illustration given on page IV-20).
- Be sure to route the document sensor harness through the three harness guides so that it will not interfere with the document rear sensor actuator. (See the illustration given on page IV-20.)
- Reinstall the ADF motor with its connector side facing up. (See the illustration given on page IV-19.)
- Reinstall the ADF side covers so that the tabs of the ADF side plates become fitted inside the ribs provided on the ADF side covers. (See the illustration given on page IV-18.)
- When reinstalling the ADF side cover R, be sure to route the document sensor harness, ADF motor harness, and grounding wire between the boss and the ADF side cover R. (See the illustration given on page IV-18.)
- When reinstalling the ADF unit, first set the ADF support onto rear pin "x" of the ADF unit, set the ADF unit back into place, set the other ADF support onto front pin "y," then secure those ADF supports with two screws "c." (See the illustration given on page IV-17.)

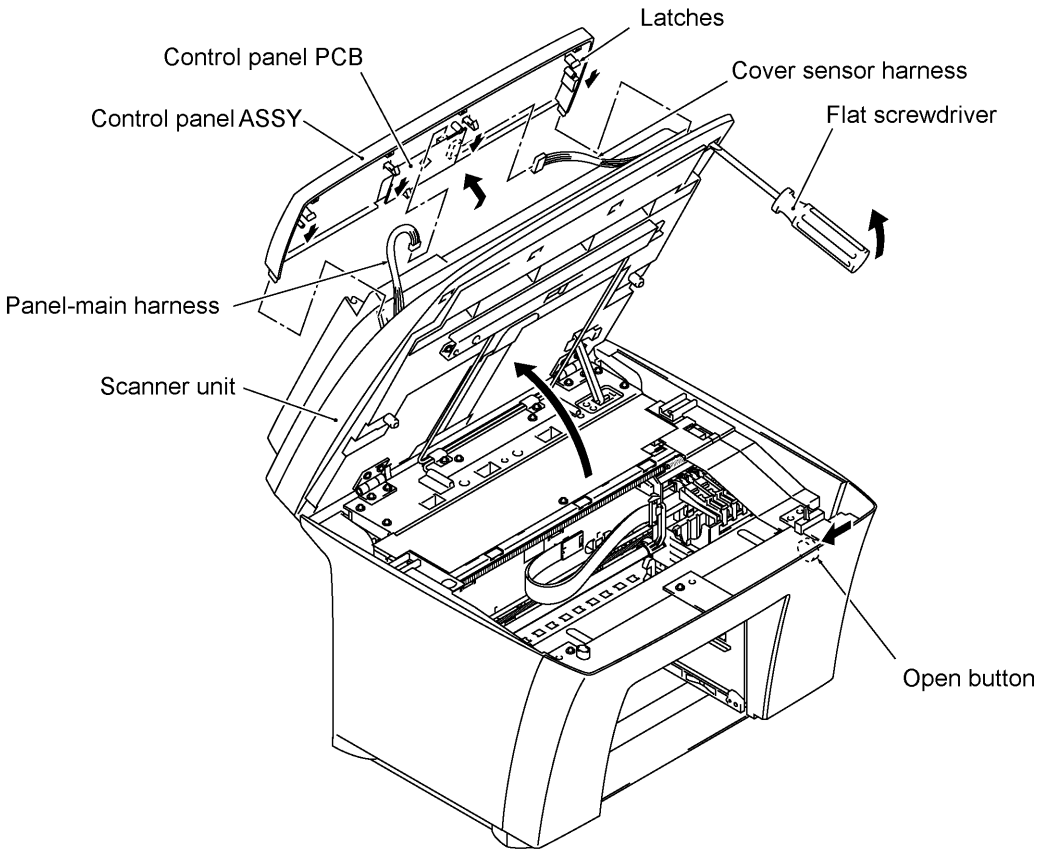
## 1.7 Control Panel ASSY, Cover Sensor PCB, and Cover Sensor Actuator

(1) Push the open button to open the scanner unit.

(2) Insert the tip of a flat screwdriver into each of the four holes provided in the bottom of the scanner unit and unhook the four latches while lifting up the control panel ASSY.

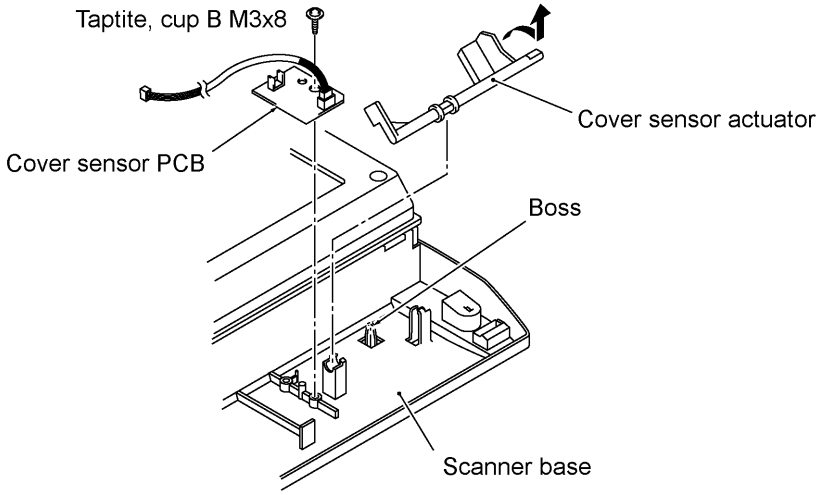
(3) Slightly slide the control panel ASSY towards you to separate it from the scanner unit.

(4) Disconnect the cover sensor harness and panel-main harness from the control panel PCB.



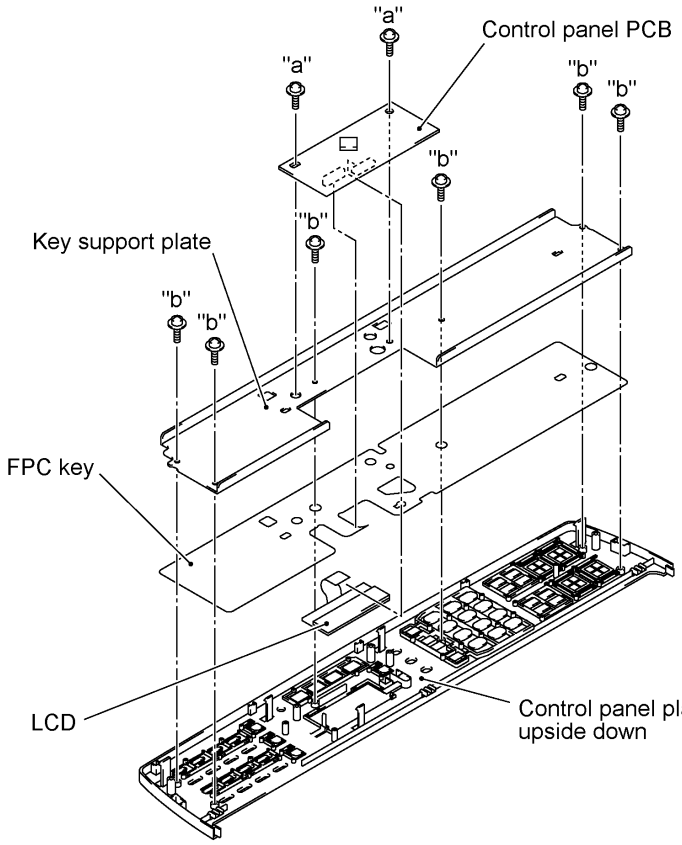

(5) Turn the cover sensor actuator as shown below and lift it up.

(6) Remove the screw and take off the cover sensor PCB.



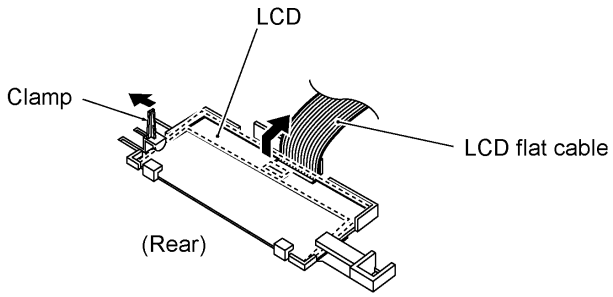
## n Disassembling the Control Panel ASSY

1) Turn the control panel ASSY upside down.
2) Remove two screws "a."
3) Slightly lift up the control panel PCB, then unlock the FPC key connector and disconnect the FPC key. Next, unlock the LCD cable connector and disconnect the LCD flat cable.
4) Remove six screws "b."
5) Remove the key support plate and FPC key.




6) As shown below, slightly pull the clamp outwards and take out the LCD while pulling the LCD flat cable gently.

   **NOTE:** Do not take out the LCD except when the LCD is defective and requires replacement.




## n Reassembling Notes

- Before reinstalling the LCD to the control panel, wipe fingerprints or dust off the LCD surface and control panel window with a soft cloth.
- A new LCD is covered with a protection sheet. Before installing it, remove the protection sheet.

### 1.8 Scanner Unit

(1) Disconnect the following flat cable and harnesses from the main PCB:
- CCD flat cable
- Panel-main harness
- CCD motor harness
- Scanner HP sensor harness

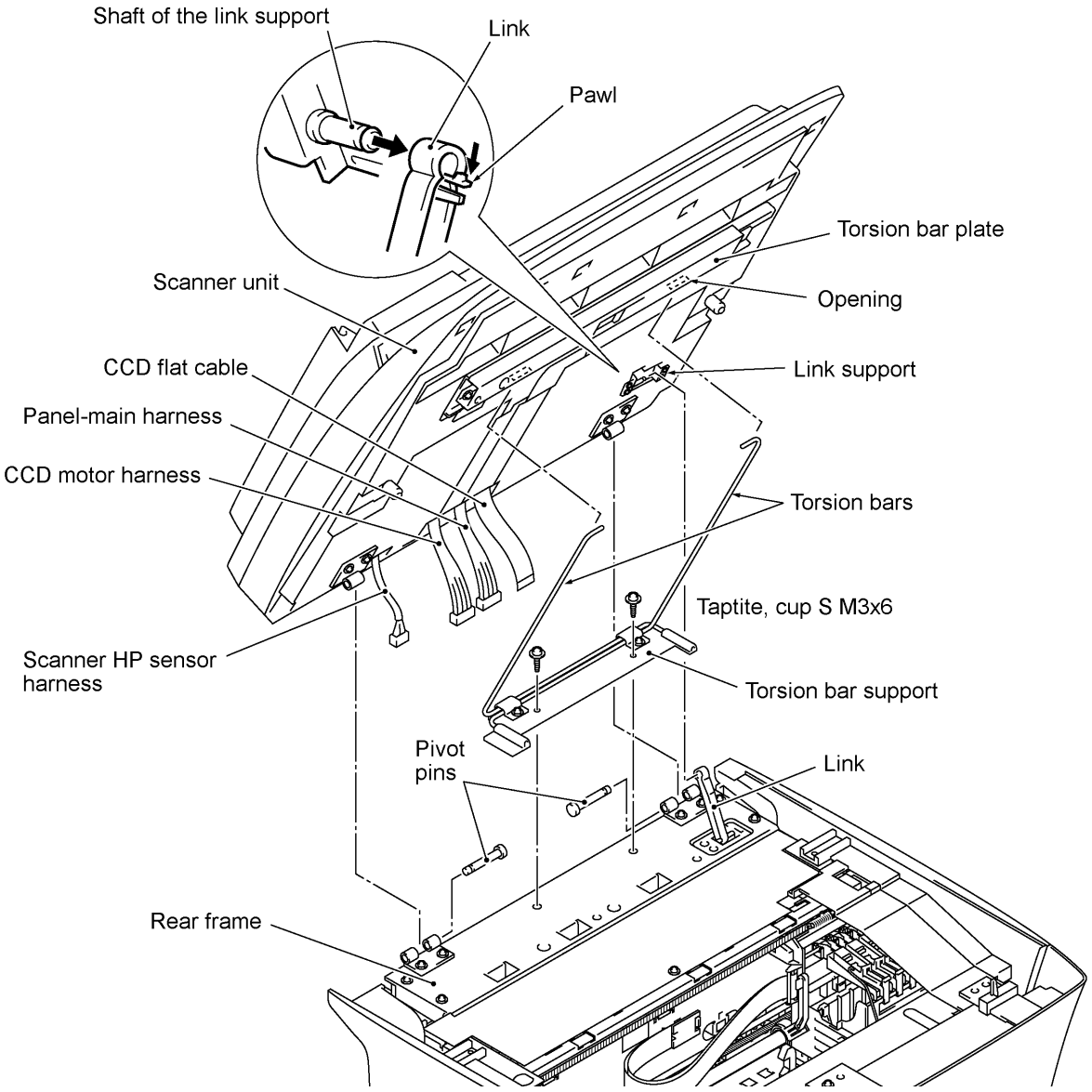
(2) Press the pawl of the link, move the link to the right, and release it from the shaft of the link support secured to the bottom of the scanner unit.

**NOTE:** Be careful with the scanner unit that will spring open further.

(3) Remove the two screws from the torsion bar support and take it off from the rear frame.

(4) Pull out the top ends of the torsion bars from the opening provided in the torsion bar plate.

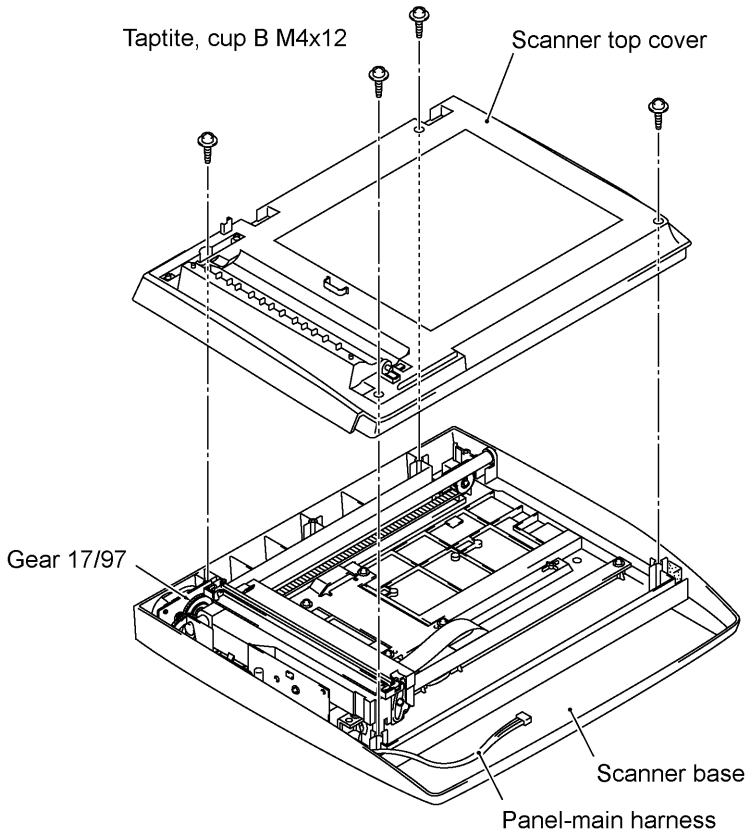
(5) Keep the scanner unit at a right angle to the machine body, and pull out the pivot pins inwards. The scanner unit may be separated.



## n Disassembling the Scanner Unit

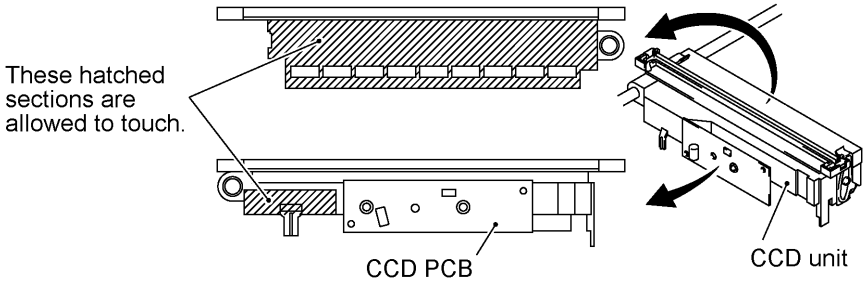
The disassembling job of the scanner unit should be done in a clean room to prevent dust or dirt from getting into the scanner unit.

1) Remove the four screws from the scanner top cover.
2) Separate the scanner top cover from the scanner base.



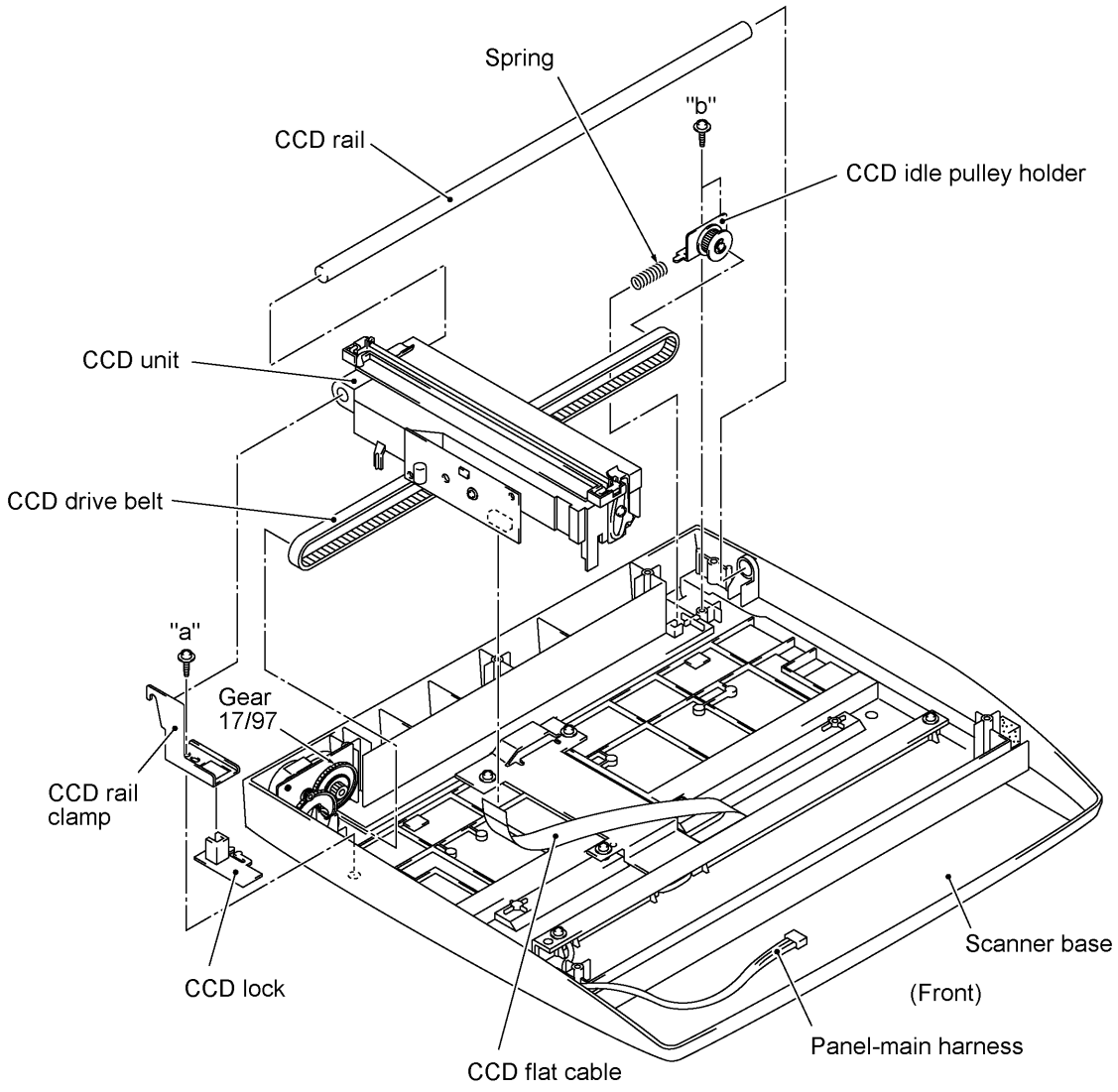

3) Turn the gear 17/97 to move the CCD unit to the right to make the following job easier.
4) Remove screw "a" and take out the CCD rail clamp. (See the illustration given on the next page.)
5) Remove two screws "b" from the CCD idle pulley holder, then remove the CCD drive belt from the idle pulley.
6) Lift up the CCD rail together with the CCD unit and CCD drive belt, and then disconnect the CCD flat cable.

**NOTE:** When handling the CCD unit, do not touch the CCD PCB or glasses but hold the hatched sections as shown below.



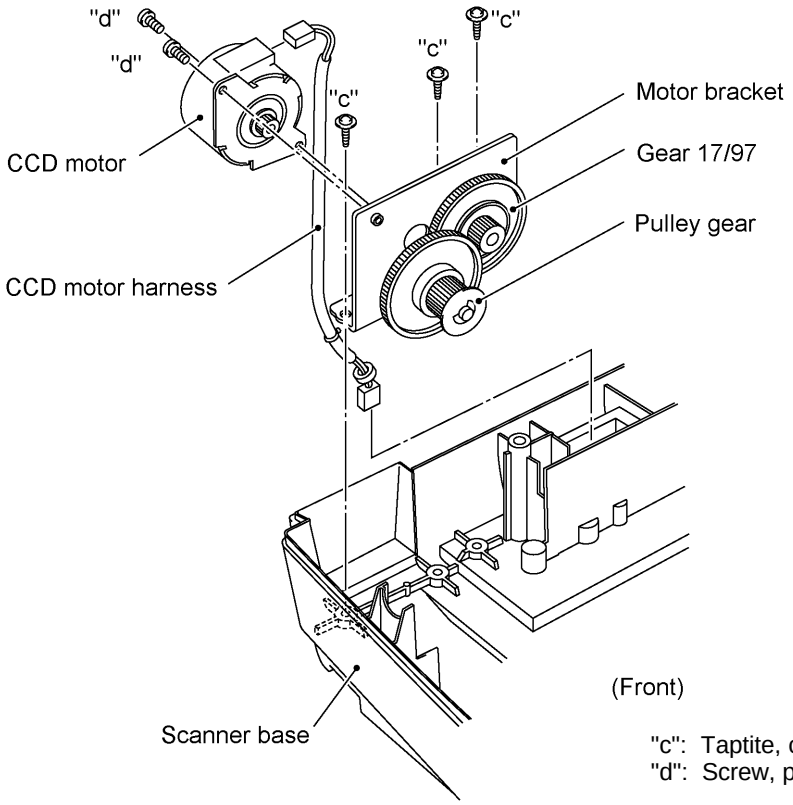
7) Pull out the CCD rail from the CCD unit.

8) Remove the CCD lock.



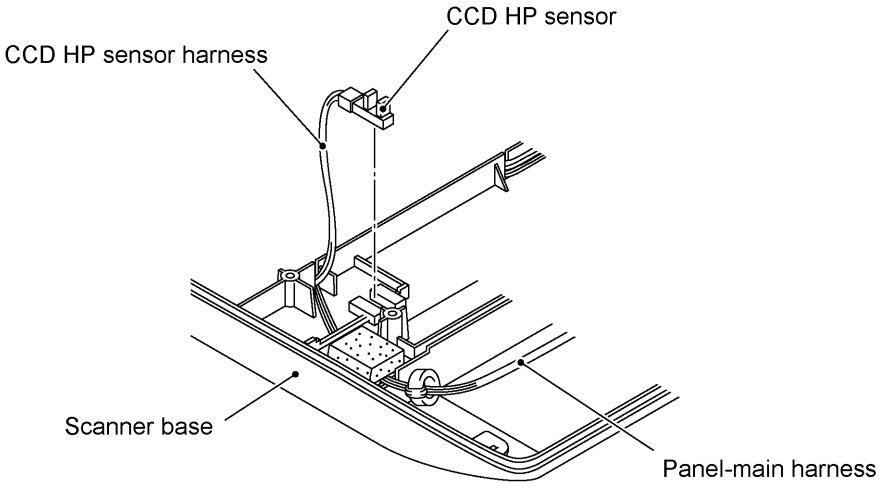

"a": Taptite, cup B M3x8
"b": Taptite, pan B M3x10

9) Pull up the CCD motor harness and disconnect it from the CCD motor.
10) Remove three screws "c" from the motor bracket.
11) Lift up the motor bracket.
12) Remove two screws "d" from the CCD motor.



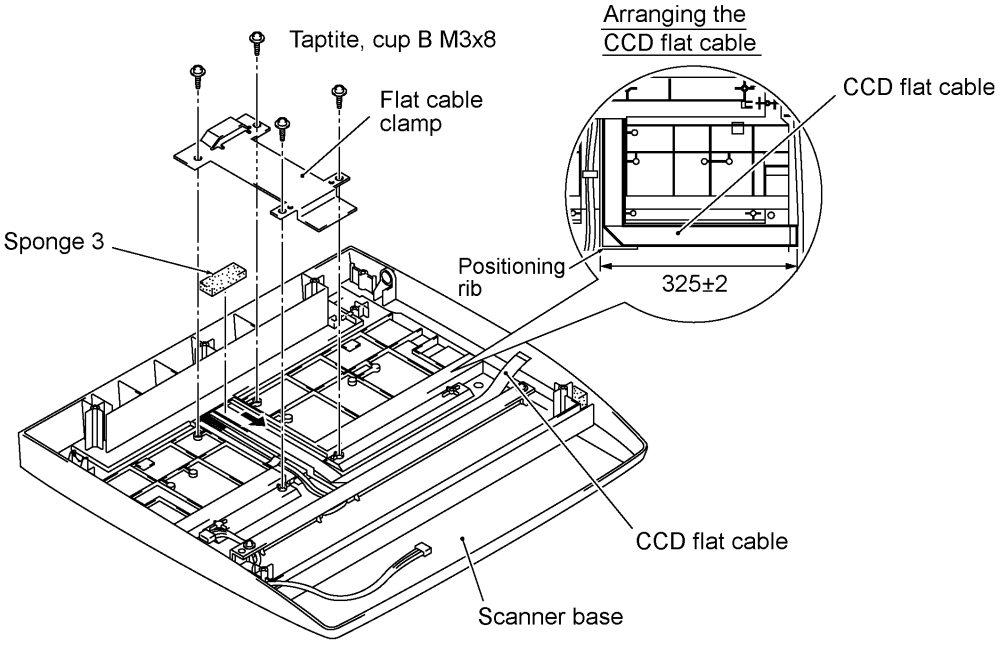

"c": Taptite, cup B M3x8
"d": Screw, pan (washer) M3x6DA

13) Disconnect the CCD HP sensor harness from the sensor.
14) Remove the CCD HP sensor.



15) Remove the four screws and take off the flat cable clamp. Remove sponge 3 attached with adhesive tape.

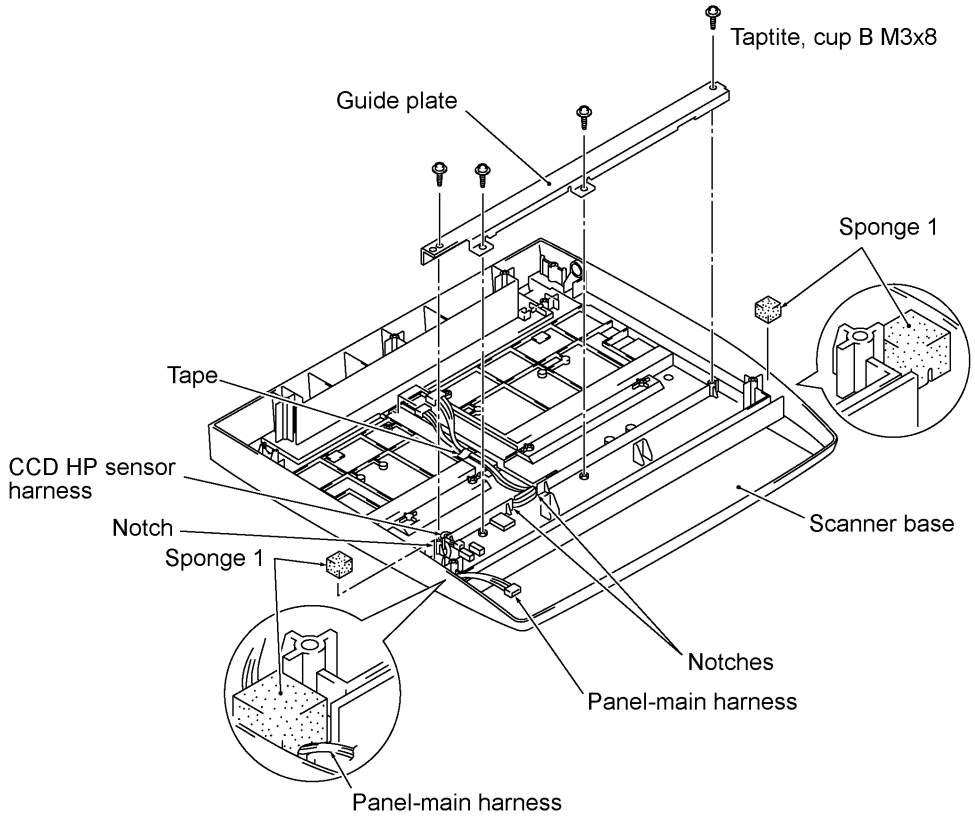
16) Remove the CCD flat cable (which is attached with adhesive tape).




17) Remove the four screws and take off the guide plate.

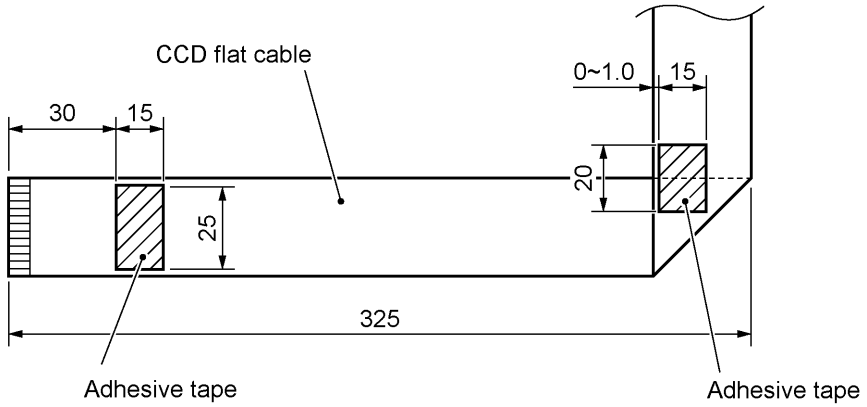
18) Remove tape and sponges 1, then take out the panel-main harness and CCD HP sensor harness.

**NOTE:** Once removed, the sponges 1 will become unusable and new ones will have to be put back in.



## n Reassembling Notes

- Route the panel-main harness and CCD HP sensor harness through the three notches, then tape them as illustrated on the previous page.
- When replacing the CCD flat cable with a new one, be sure to arrange the new cable as illustrated below, then route it along the positioning rib as shown on the previous page.

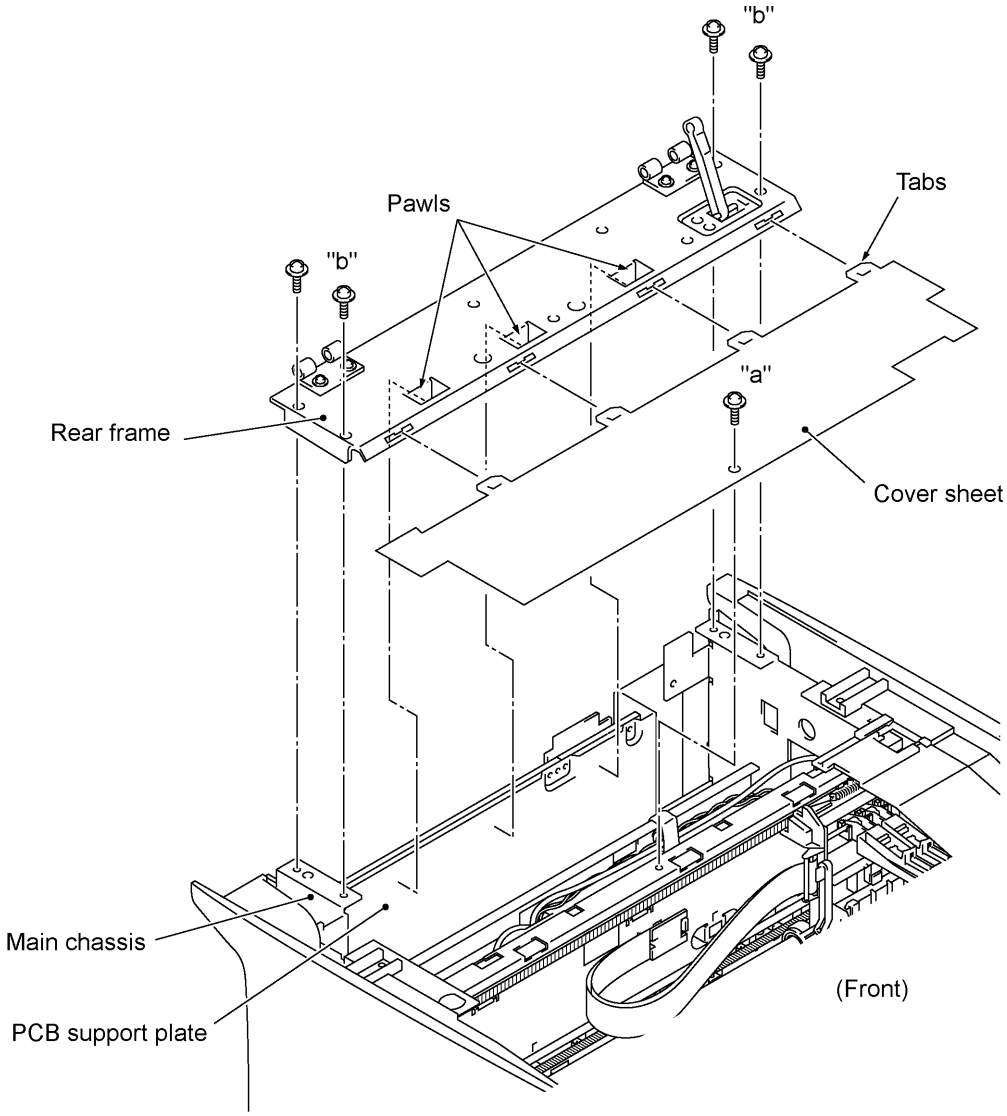



- Set the CCD motor back into place with its connector side facing up as shown on page IV-28.
- Set the CCD lock in the release (forward) position. If the CCD lock is placed in the lock position, the CCD home positioning will fail in the next powering-up sequence. If this happens, turn the CCD lock to the release position.

### 1.9 Cover Sheet and Rear Frame

(1) Remove screw "a" and take off the cover sheet.

(2) Remove four screws "b" and take off the rear frame.




"a" and "b": Taptite, cup S M3x6

**n Reassembling Notes**

- When setting the rear frame back into place, fit its pawls over the top edge of the PCB support plate as shown above.
- When setting the cover sheet back into place, fit its tabs into the cutouts provided in the rear frame as shown above.

### 1.10 Inner Cover and Front Cover

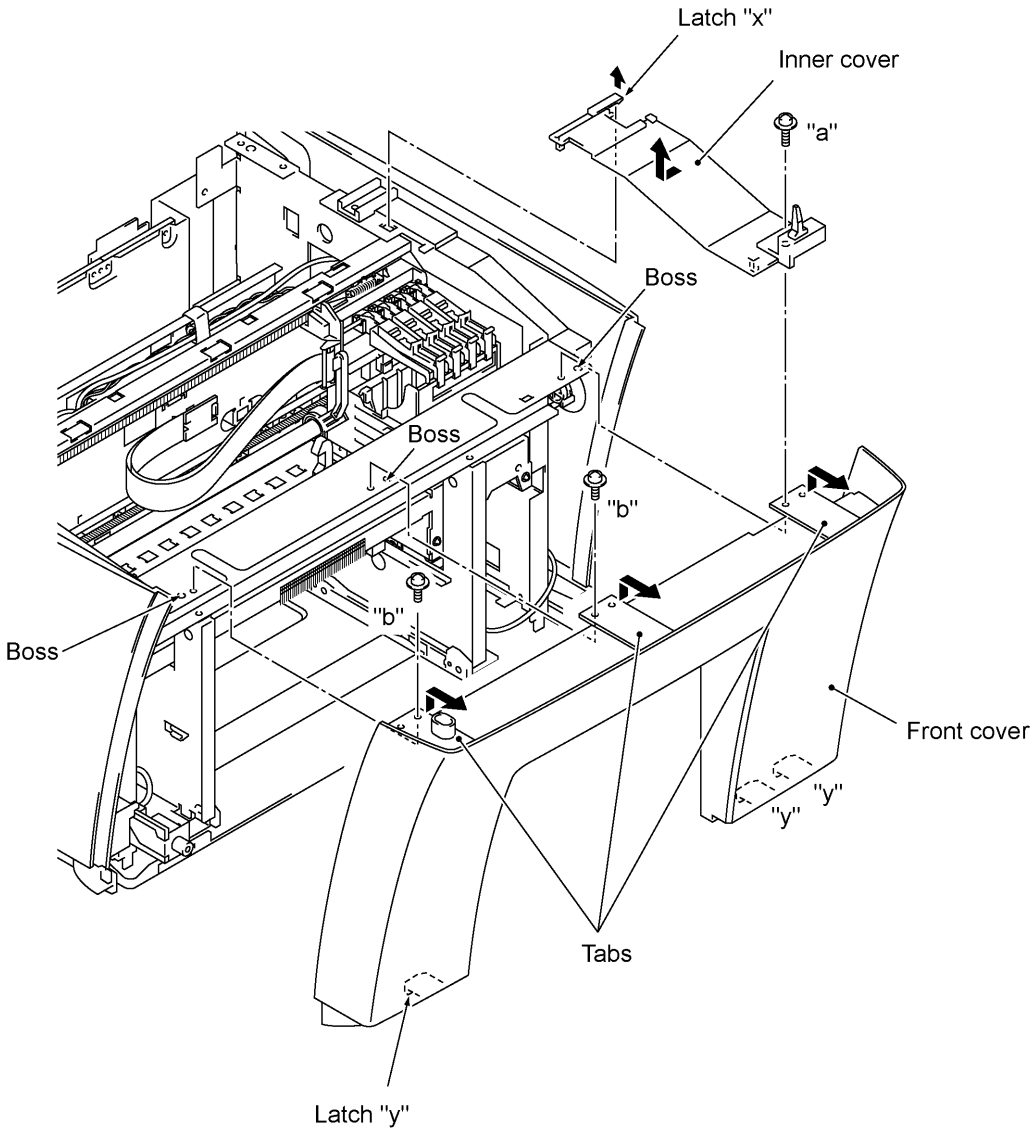
(1) If the scanner unit has not been removed, push the open button to open the scanner unit.

(2) Remove screw "a" from the inner cover.

(3) Unhook latch "x" and shift the inner cover to the left and up.

(4) Remove two screws "b."

(5) Slightly pull up three tabs to release them from bosses and then remove the front cover to the front.



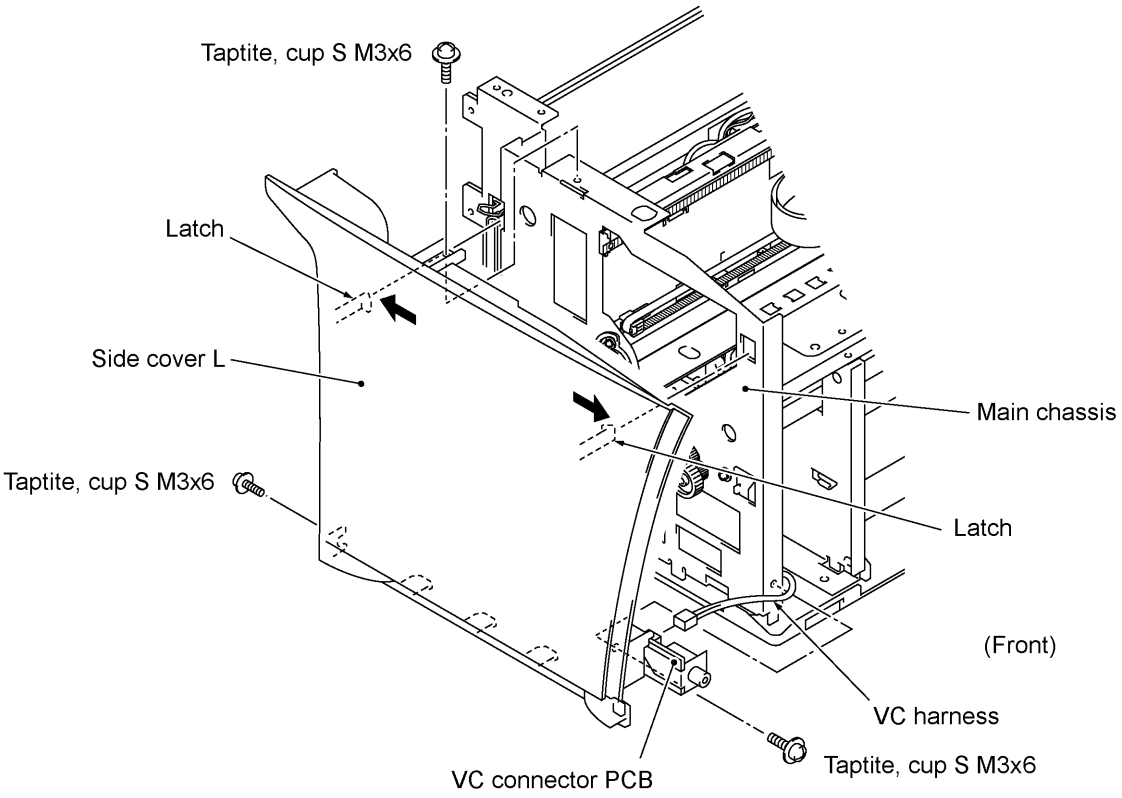

"a": Taptite, cup S M3x10
"b": Taptite, cup S M3x6

### 1.11 Side Cover L and VC Connector PCB

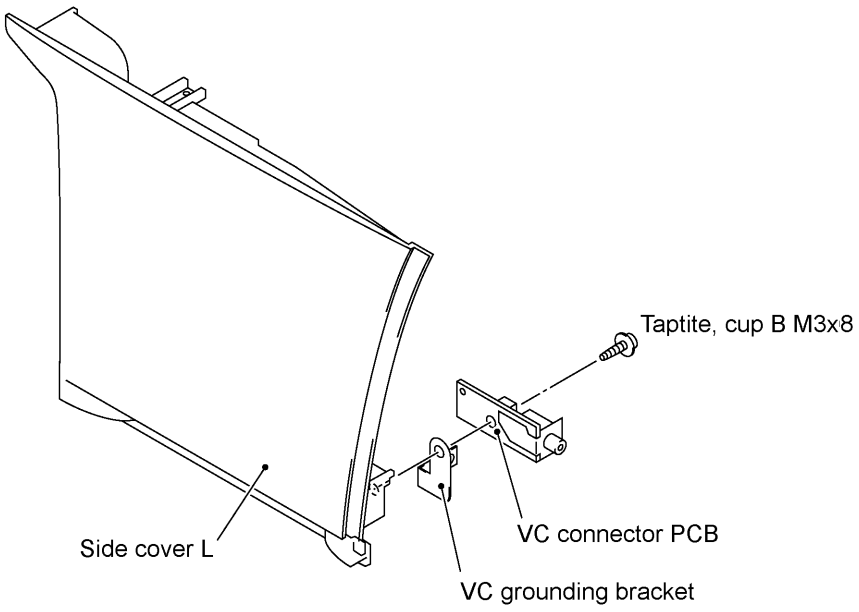
(1) Remove three screws.

(2) Disconnect the VC harness from the VC connector PCB.

(3) Unhook the two latches from the main chassis and remove the side cover L together with the VC connector PCB.




(4) Remove the screw and take off the VC connector PCB and VC grounding bracket.



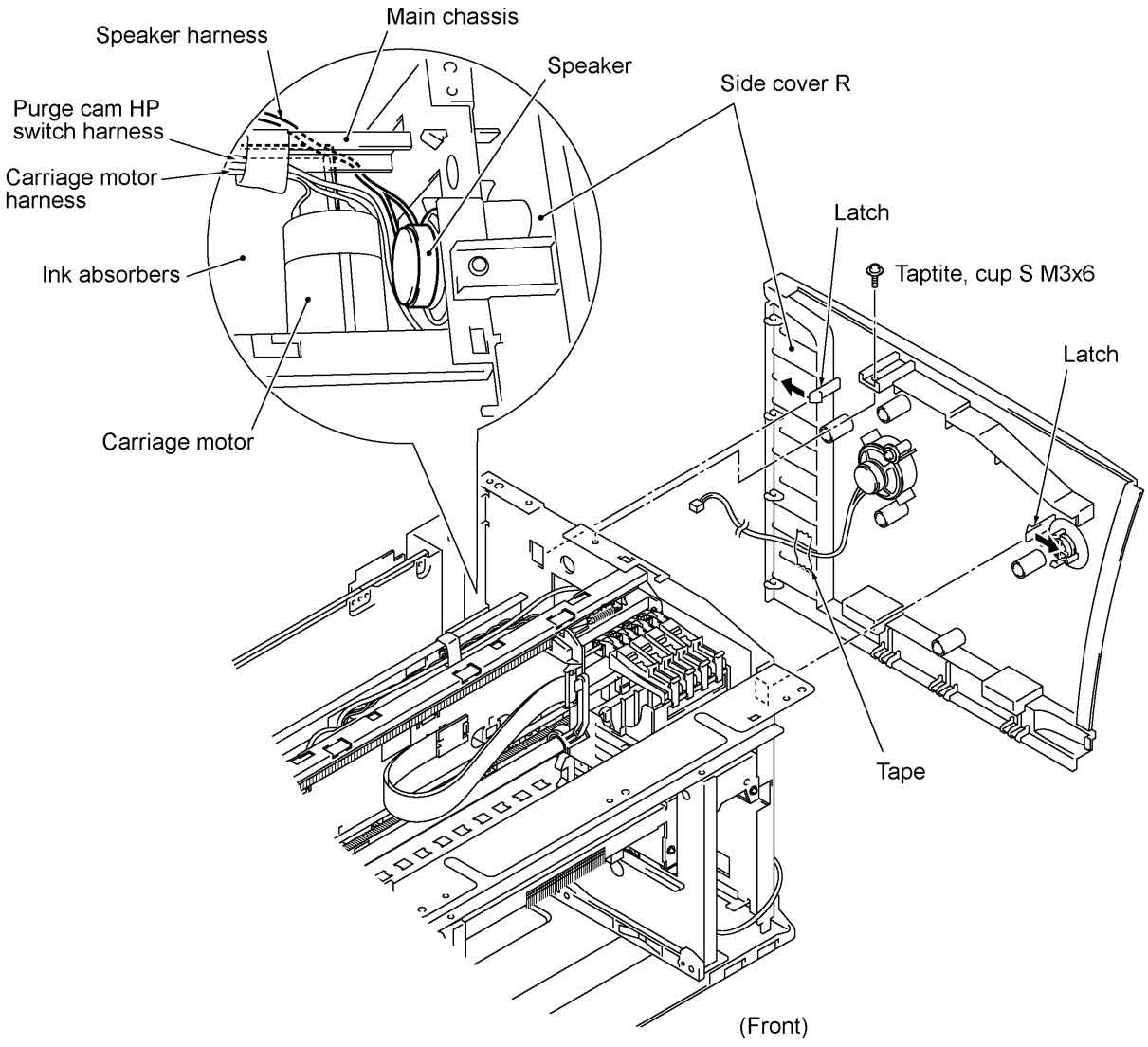
### 1.12 Side Cover R and Speaker

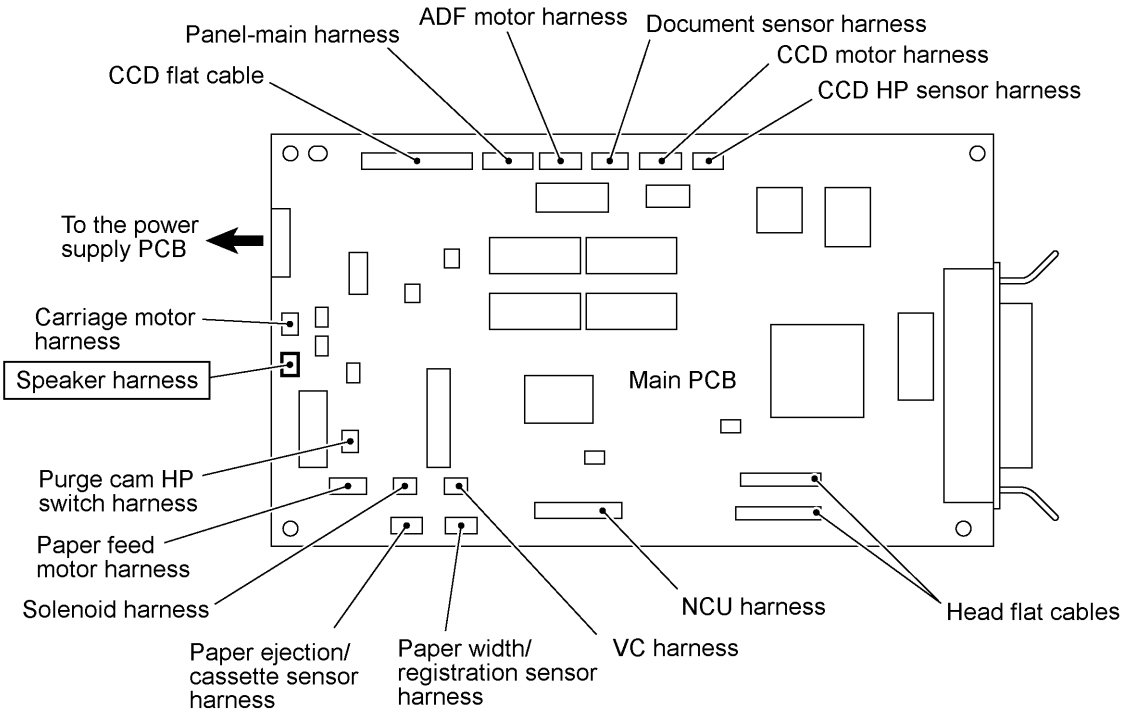
(1) Open the cable clamp (see the illustration given on page IV-36) and release the harnesses.

(2) Disconnect the speaker harness from the main PCB. (See the illustration given on the next page.)

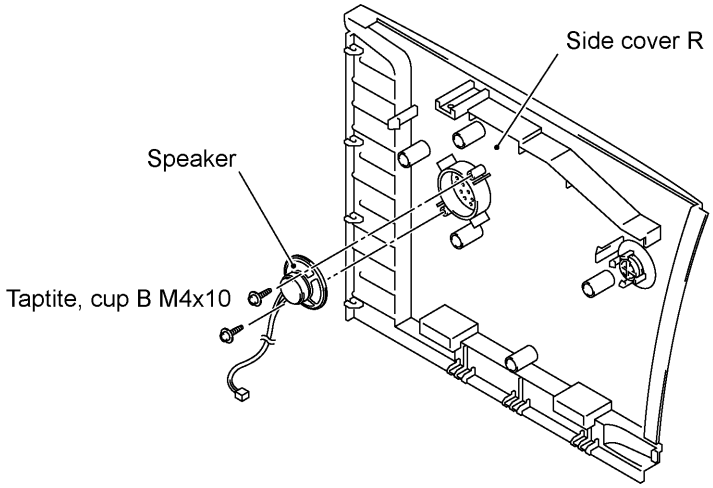
(3) Remove the screw from the top of the side cover R.

(4) Unhook the two latches from the main chassis and remove the side cover R together with the speaker.



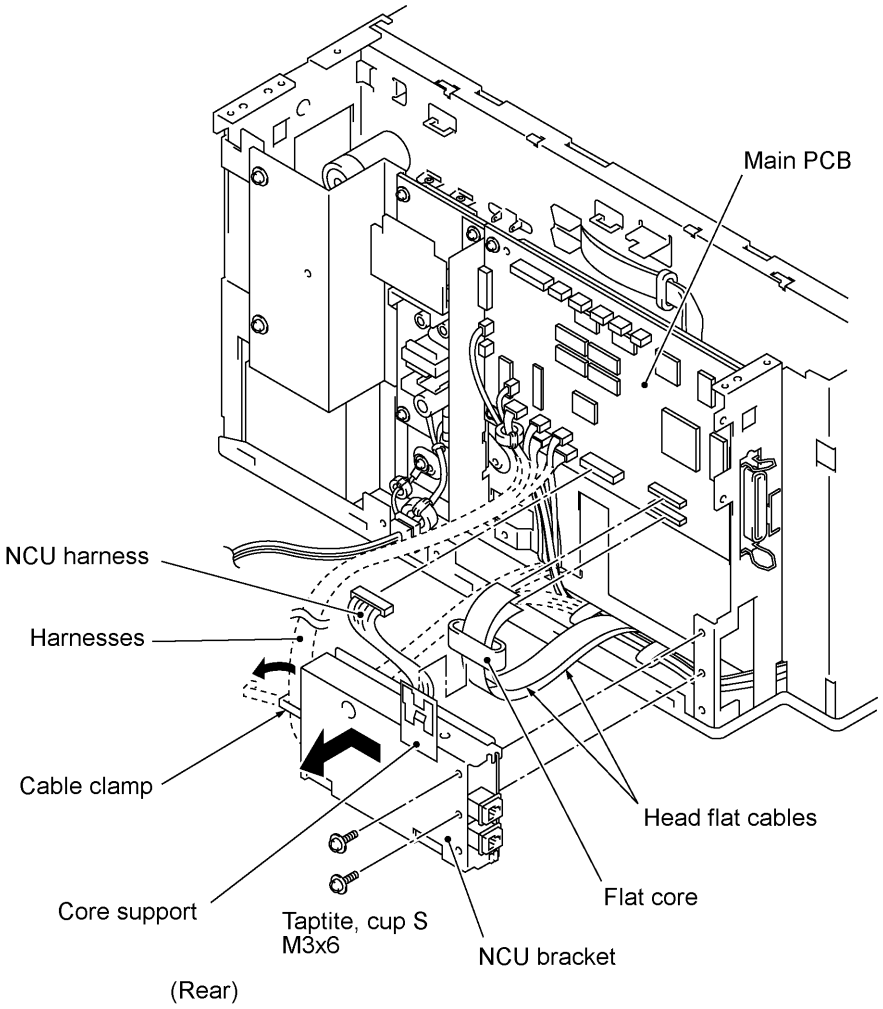



(5) Remove the two screws and take out the speaker.



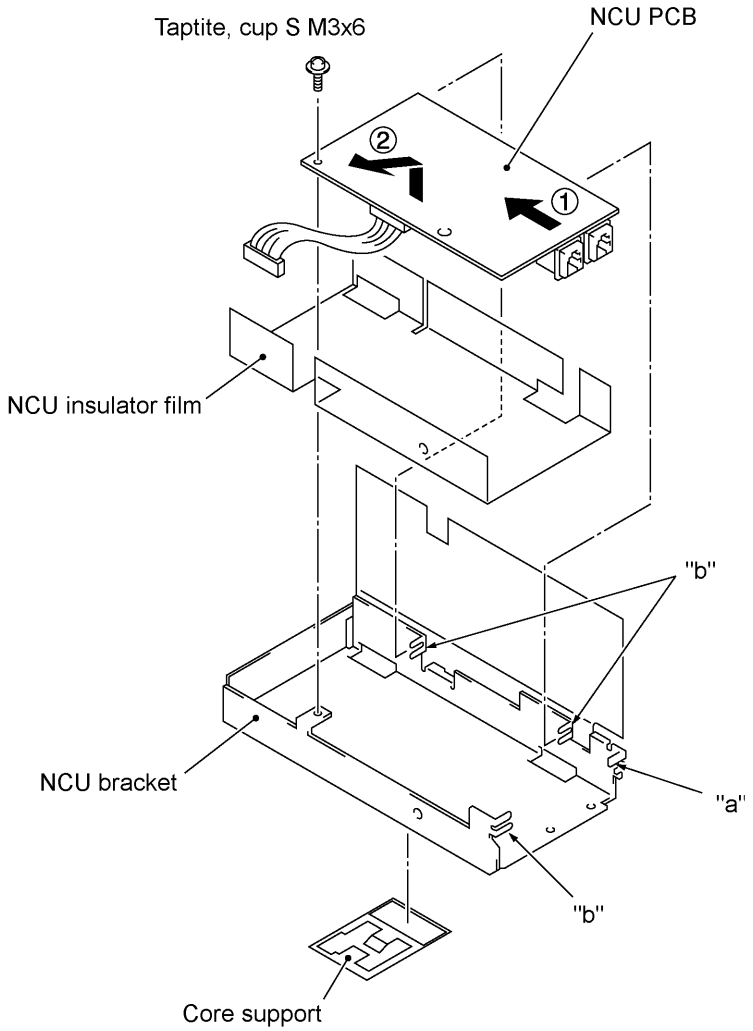
### 1.13 NCU PCB

(1) Disconnect the head flat cables from the main PCB.
(2) Pull the flat core of the head flat cables up and off the core support.
(3) Disconnect the NCU harness from the main PCB.
(4) Open the cable clamp and release the harnesses.
(5) Remove the two screws (three screws if the side cover L has not been removed).
(6) Slide the NCU bracket to the left (when viewed from the rear) and to the rear.



(7) Remove the screw.

(8) Take out the NCU PCB in the direction of arrows • and ❟.




**n Reassembling Notes**

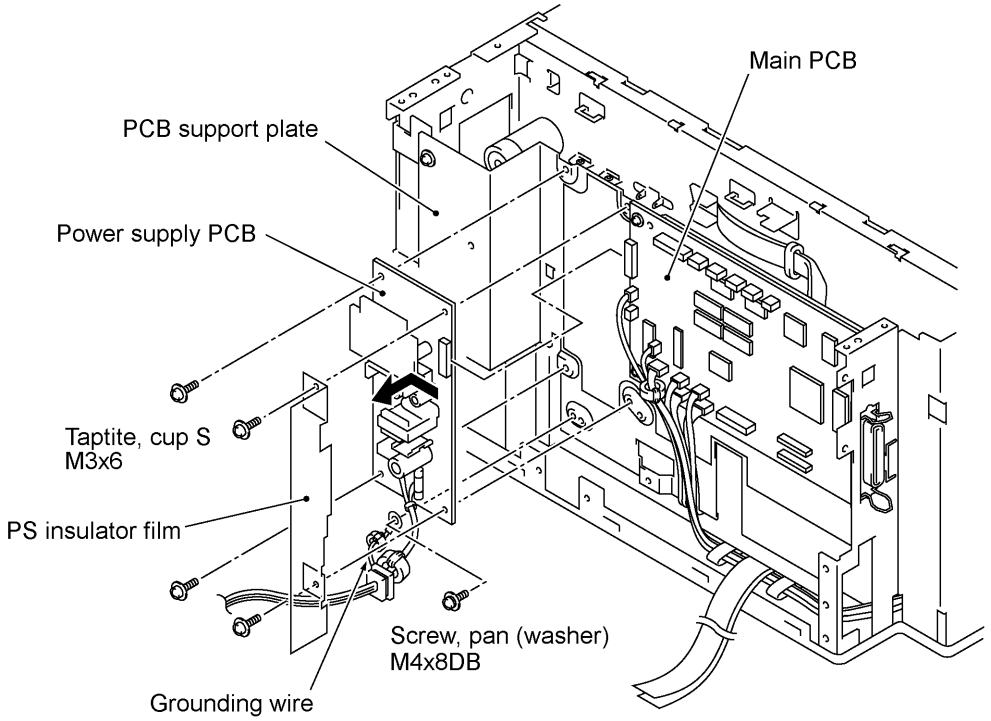
- When setting the NCU PCB back into its bracket, fit its edges onto "a" and into "b" as shown above.

### 1.14 Power Supply PCB

(1) Remove the four screws from the power supply PCB.

(2) Remove the screw from the grounding wire.

(3) Slide the power supply PCB to the left (when viewed from the rear) to disconnect it from the main PCB, then take it out together with the PS insulator film.



### 1.15 Main PCB

(1) Disconnect the following harnesses and flat cables from the main PCB:

- Carriage motor harness
- Speaker harness (if the speaker has not been removed)
- Purge cam HP switch harness
- Paper feed motor harness
- Solenoid harness
- Paper ejection/cassette sensor harness
- Paper width/registration sensor harness
- VC harness
- NCU harness
- Head flat cables

} (if the NCU PCB has not been removed)

- CCD flat cable
- Panel-main harness
- CCD motor harness
- CCD HP sensor harness

} (if the scanner unit has not been removed)

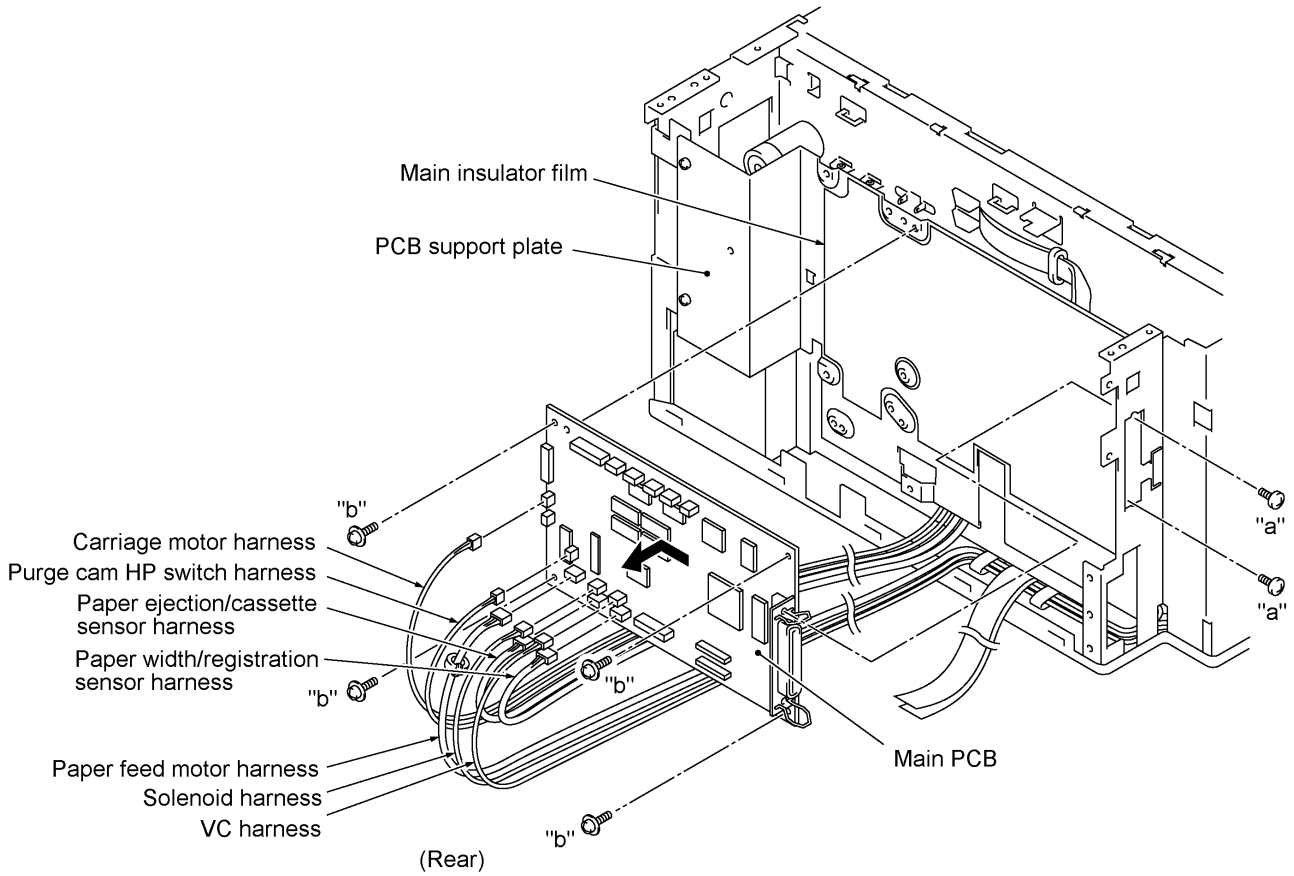
- ADF motor harness
- Document sensor harness

} (if the ADF unit has not been removed)

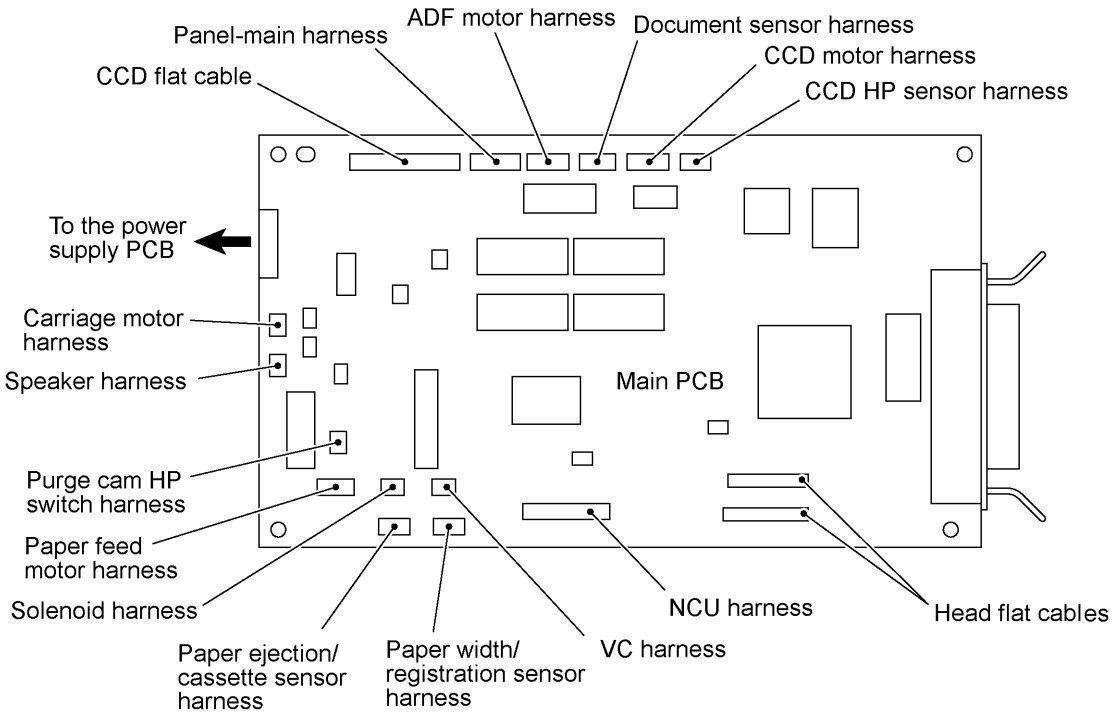
(2) Remove two screws "a" from the interface connector.

(3) Remove four screws "b" from the main PCB.

(4) Slide the main PCB to the left (when viewed from the rear) and to the rear.




"a": Machine screw, pan M3x6
"b": Taptite, cup S M3x6




(5) Remove the main insulator film.

## n Reassembling Notes

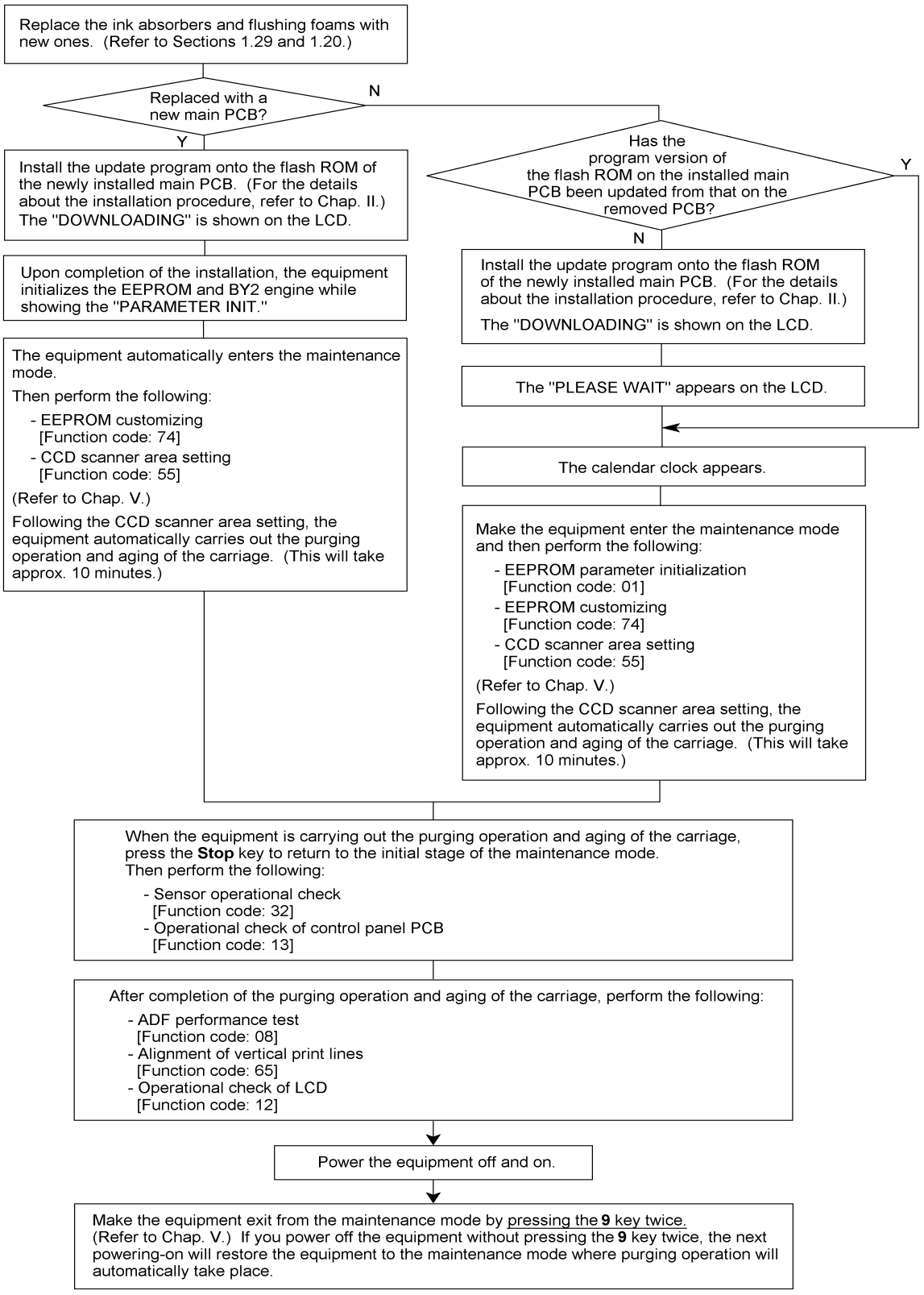
- After you replace the main PCB, be sure to follow the flowchart given on the next page.

## Setting up the main PCB after replacement

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - **Important** - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**NOTE:** Before starting the following procedure, make sure that the print head unit is installed.

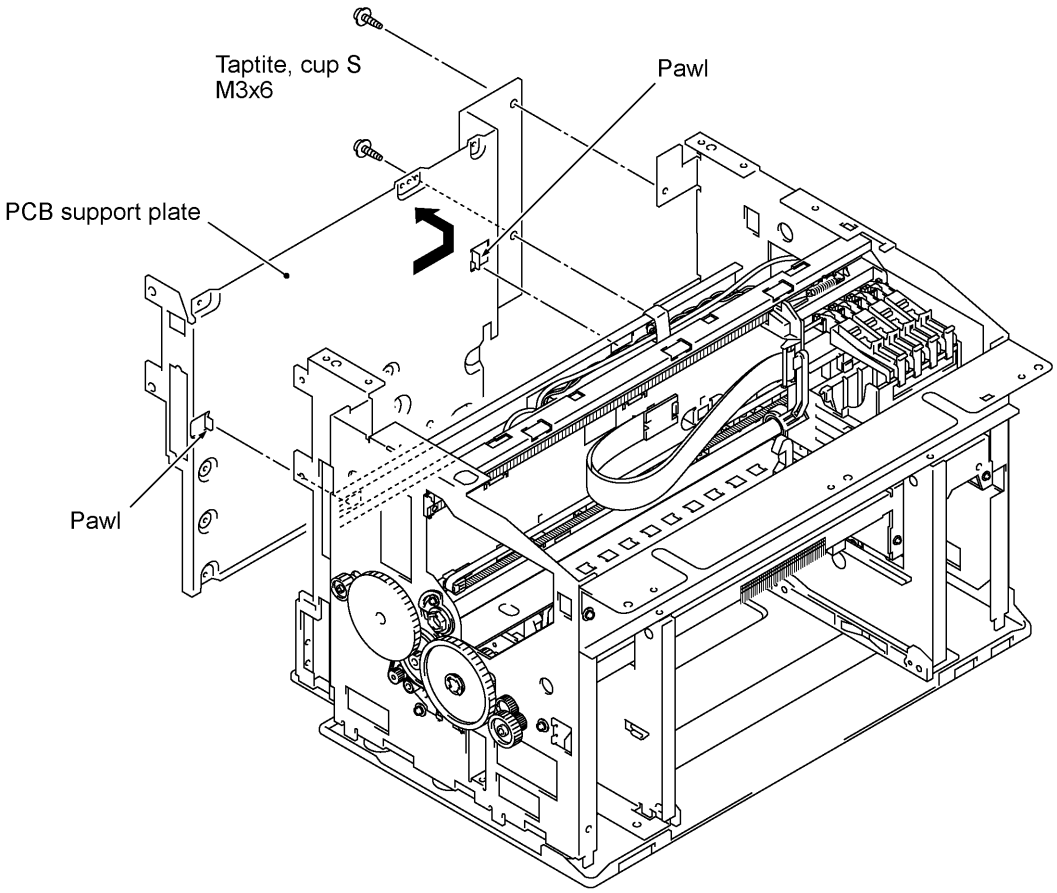
**NOTE:** When replacing the main PCB, it is recommended that you replace all ink cartridges in order to maintain accurate ink level information.


Replace the ink absorbers and flushing foams with new ones. (Refer to Sections 1.29 and 1.20.)
Replaced with a new main PCB?
N
Y
Install the update program onto the flash ROM of the newly installed main PCB. (For the details about the installation procedure, refer to Chap. II.)
The "DOWNLOADING" is shown on the LCD.
Upon completion of the installation, the equipment initializes the EEPROM and BY2 engine while showing the "PARAMETER INIT."
The equipment automatically enters the maintenance mode.
Then perform the following:
- EEPROM customizing [Function code: 74]
- CCD scanner area setting [Function code: 55]
(Refer to Chap. V.)
Following the CCD scanner area setting, the equipment automatically carries out the purging operation and aging of the carriage. (This will take approx. 10 minutes.)
Has the program version of the flash ROM on the installed main PCB been updated from that on the removed PCB?
Y
N
Install the update program onto the flash ROM of the newly installed main PCB. (For the details about the installation procedure, refer to Chap. II.)
The "DOWNLOADING" is shown on the LCD.
The "PLEASE WAIT" appears on the LCD.
The calendar clock appears.
Make the equipment enter the maintenance mode and then perform the following:
- EEPROM parameter initialization [Function code: 01]
- EEPROM customizing [Function code: 74]
- CCD scanner area setting [Function code: 55]
(Refer to Chap. V.)
Following the CCD scanner area setting, the equipment automatically carries out the purging operation and aging of the carriage. (This will take approx. 10 minutes.)
When the equipment is carrying out the purging operation and aging of the carriage, press the Stop key to return to the initial stage of the maintenance mode.
Then perform the following:
- Sensor operational check [Function code: 32]
- Operational check of control panel PCB [Function code: 13]
After completion of the purging operation and aging of the carriage, perform the following:
- ADF performance test [Function code: 08]
- Alignment of vertical print lines [Function code: 65]
- Operational check of LCD [Function code: 12]
Power the equipment off and on.
Make the equipment exit from the maintenance mode by pressing the 9 key twice.
(Refer to Chap. V.) If you power off the equipment without pressing the 9 key twice, the next powering-on will restore the equipment to the maintenance mode where purging operation will automatically take place.

### 1.16 PCB Support Plate

(1) Remove the two screws from the PCB support plate.

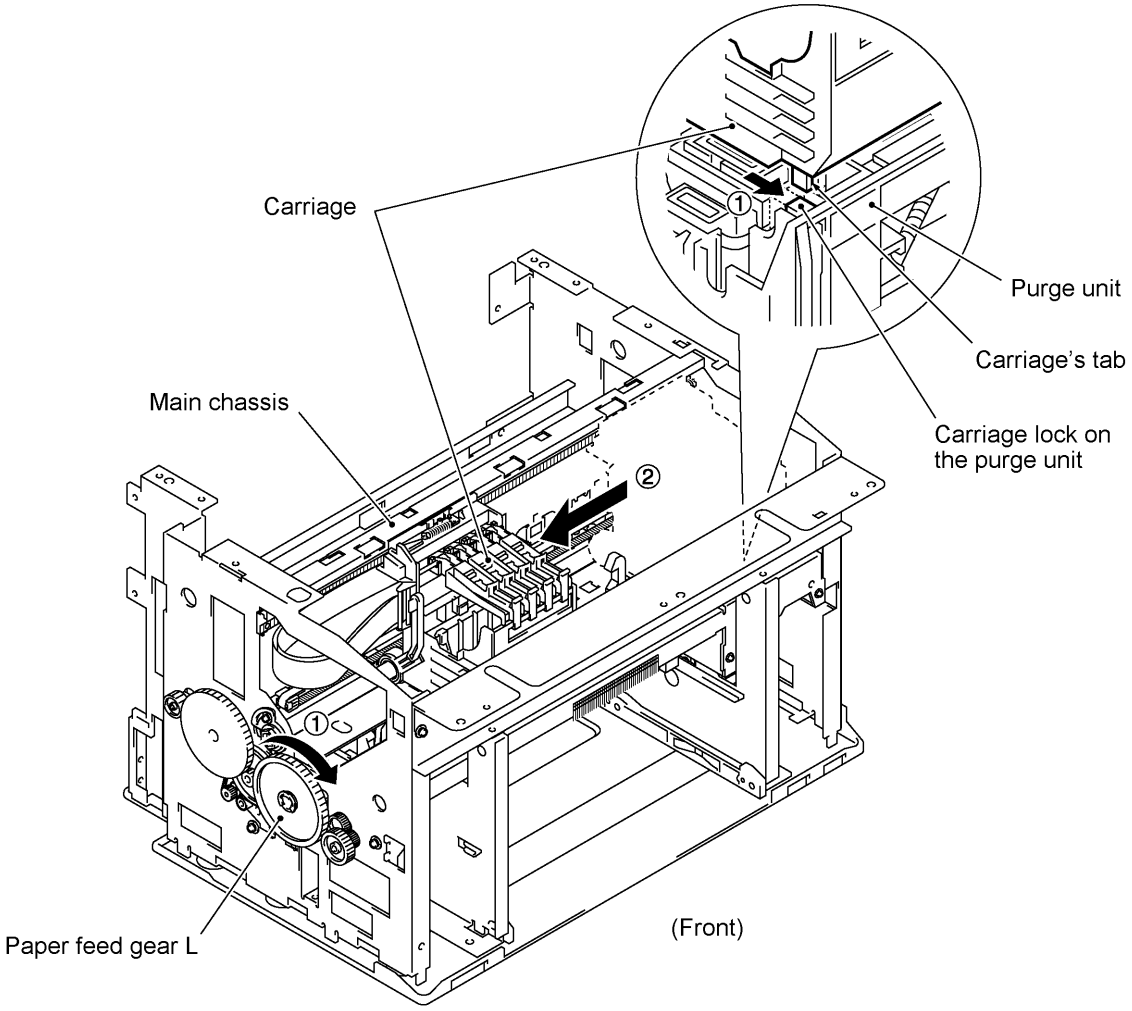
(2) Slide the PCB support plate to the left (when viewed from the rear) and lift it up.



## 1.17 Purge Unit

> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

(1) Attempt to move the carriage to the left. If the carriage is locked in the home position, turn the paper feed gear L clockwise (when viewed from the left) to retract the carriage lock (in the direction of arrow •). Then move the carriage to the left and out of the home position (arrow ❟).

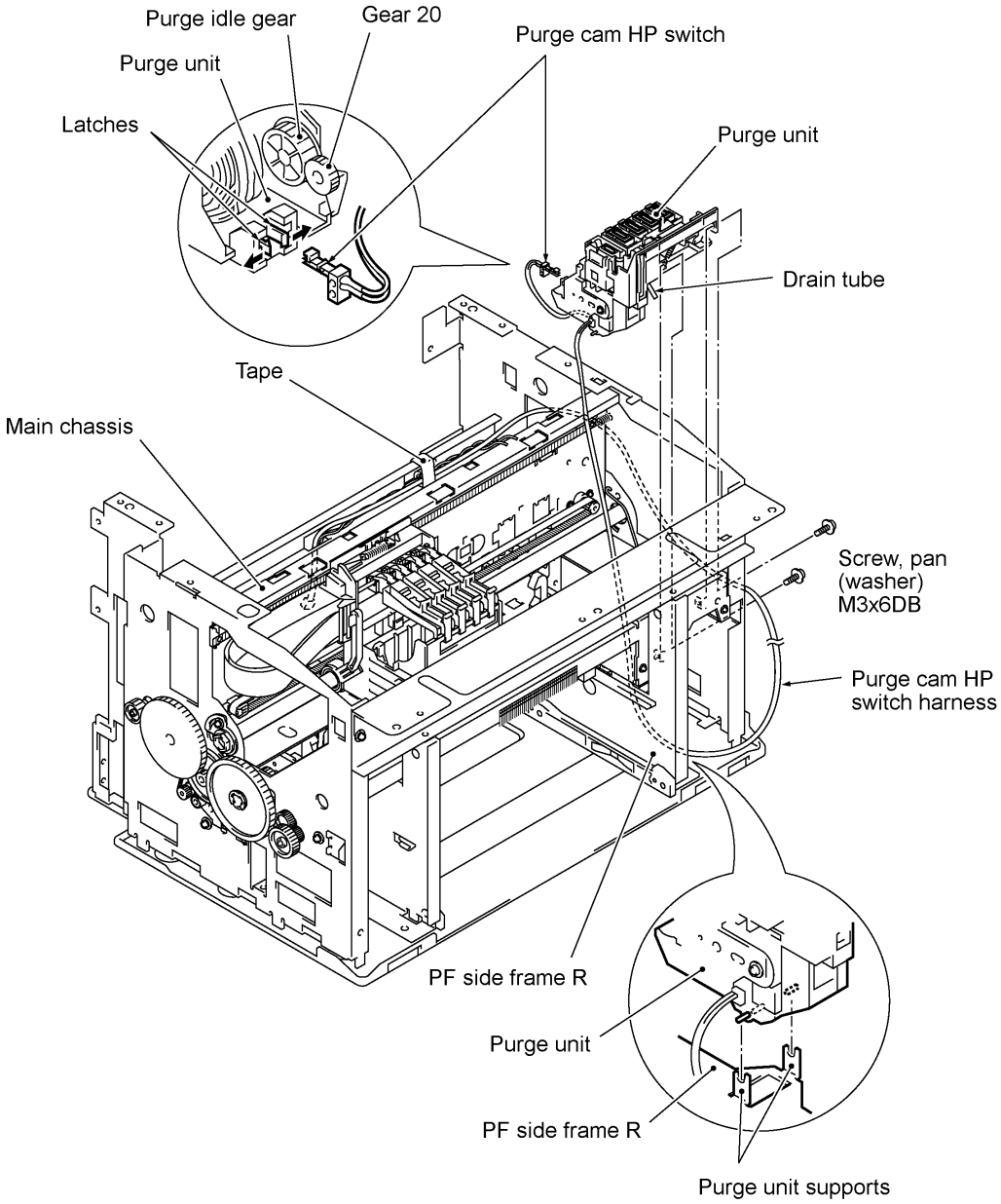


(2) Remove the two screws from the right side of the purge unit.

(3) Pull out the purge cam HP switch harness.

(4) Slightly lift up the front end of the purge unit and take it out of the PF side frame R and main chassis.

(5) Take off the purge cam HP switch from the purge unit by pulling the unit's latches outwards.



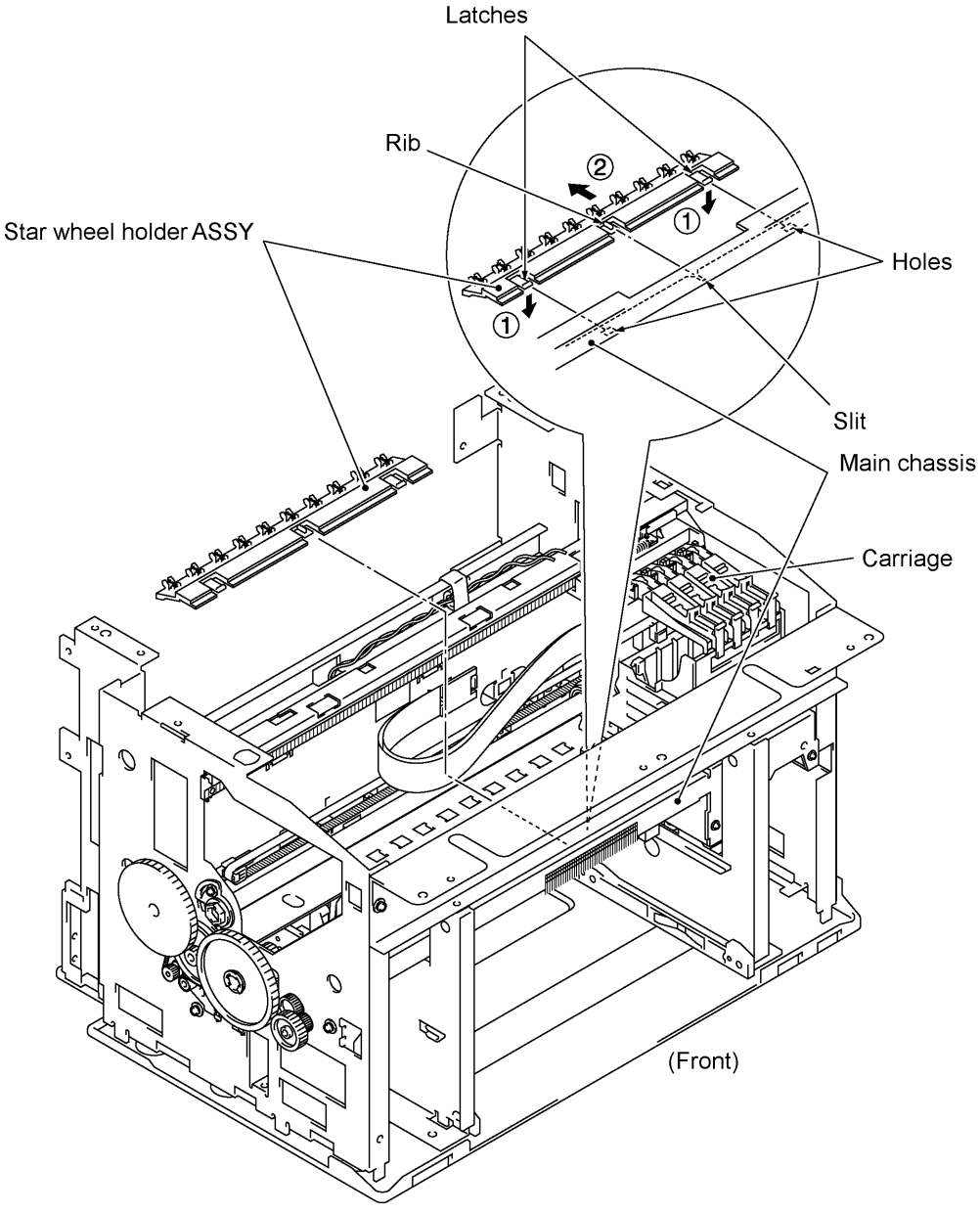

## n Reassembling Notes

- Make sure that the bottom end of the purge lever is placed in the left (clockwise) position when viewed from the top. (Refer to page III-9.)
- First route the purge cam HP switch harness through the main chassis. Then put the purge unit back into place so that the gear 20 will be placed beneath the purge switching arm (shown on page III-9) set on the PF side frame R.
- Make sure that the purge unit is fitted in the purge unit supports provided on the PF side frame R as illustrated above.
- After installing the purge unit, move the carriage to the right and left ends by hand to check that it travels smoothly.

### 1.18 Star Wheel Holder ASSY

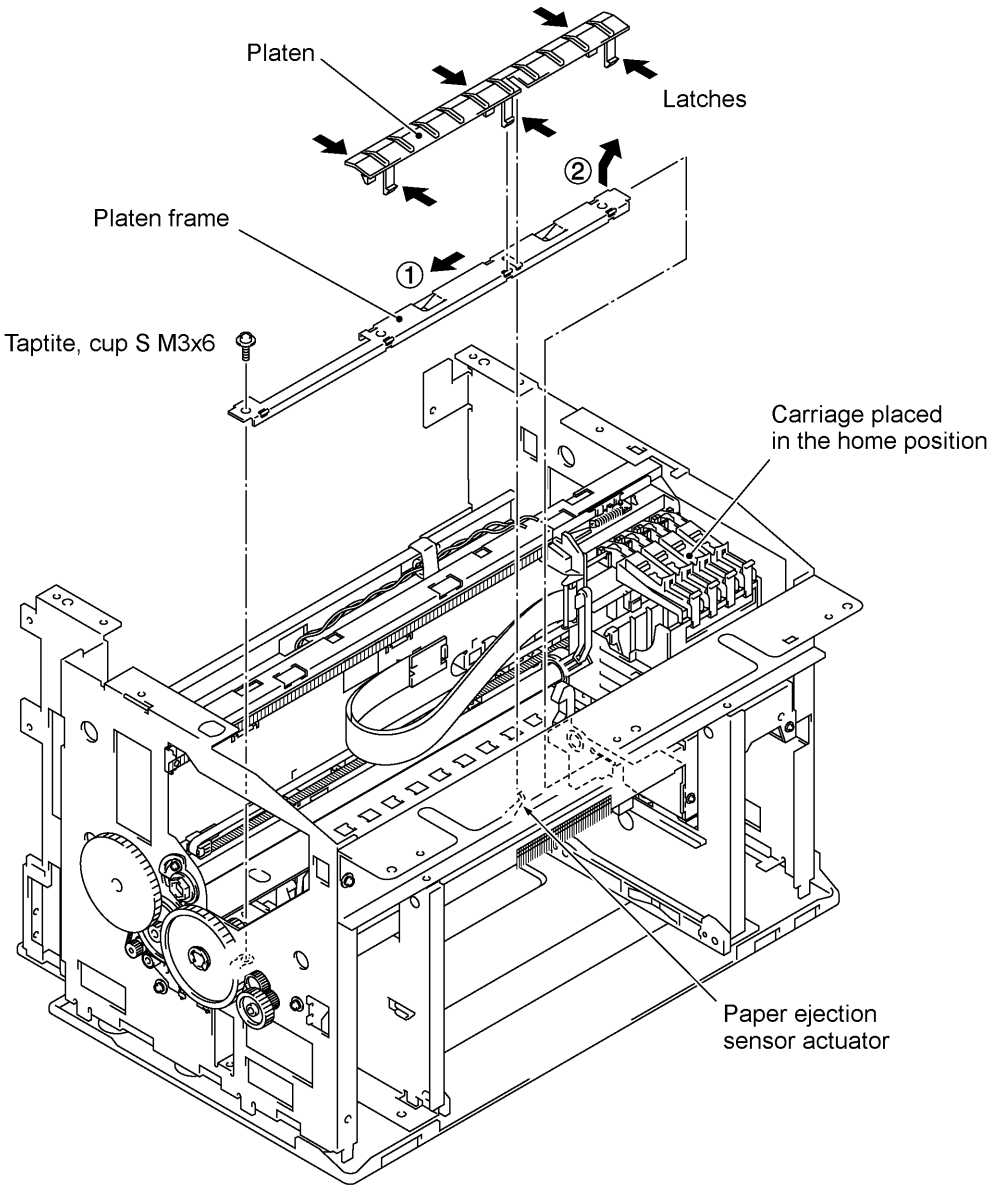
(1) Move the carriage to either end of its travel.

(2) Insert the tip of a flat screwdriver between each latch of the star wheel holder ASSY and the main chassis from the front and lightly twist it to unhook the latch while pulling the star wheel holder ASSY to the rear.



### 1.19 Platen and Its Frame

(1) Make sure that the carriage is placed in the home position.
(2) Remove the screw from the platen frame.
(3) Slightly move the platen frame to the left and take it out.
(4) Unhook the six latches of the platen from the platen frame.



## 1.20 Flushing Foams

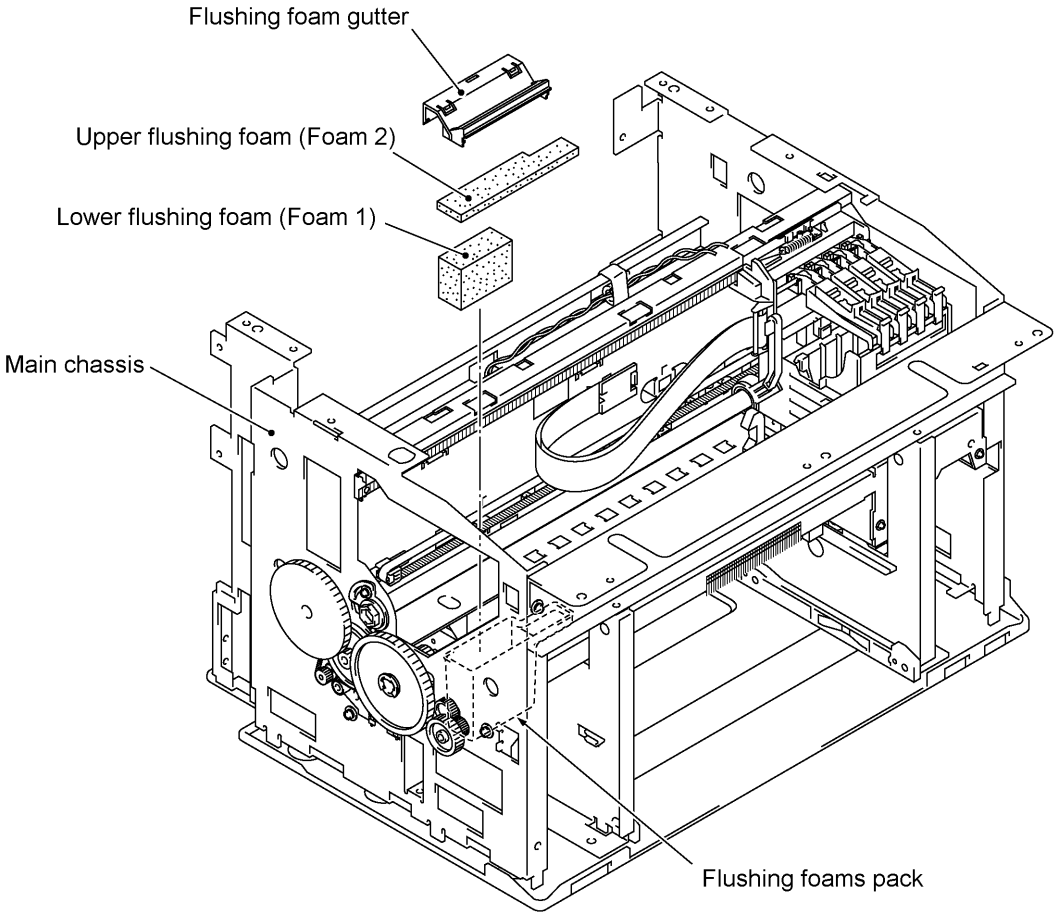
After the main PCB is replaced with any other one, you need to replace the flushing foams with new ones.

(1) Remove the flushing foam gutter.

(2) Pull out the upper and lower flushing foams from the flushing foams pack.

**NOTE:** Use vinyl gloves to prevent your hands from becoming dirty.

**NOTE:** For the removal of the flushing foams pack, refer to Subsection 1.22.



## 1.21 Main Chassis

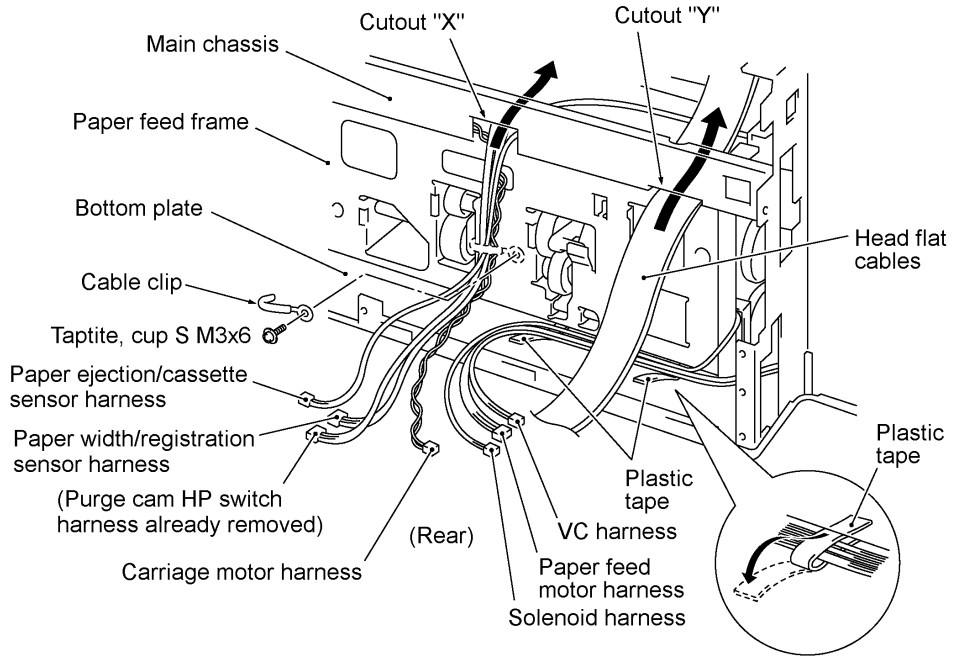
> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, “ADJUSTMENT” in this chapter.

(1) Take off the cable clip by removing the screw.

(2) Pull up the three harnesses (paper ejection/cassette sensor harness, paper width/registration sensor harness, and carriage motor harness) released in step (1) through cutout "X" provided in the main chassis.

(3) Pull up the head flat cables through cutout "Y" provided in the main chassis.

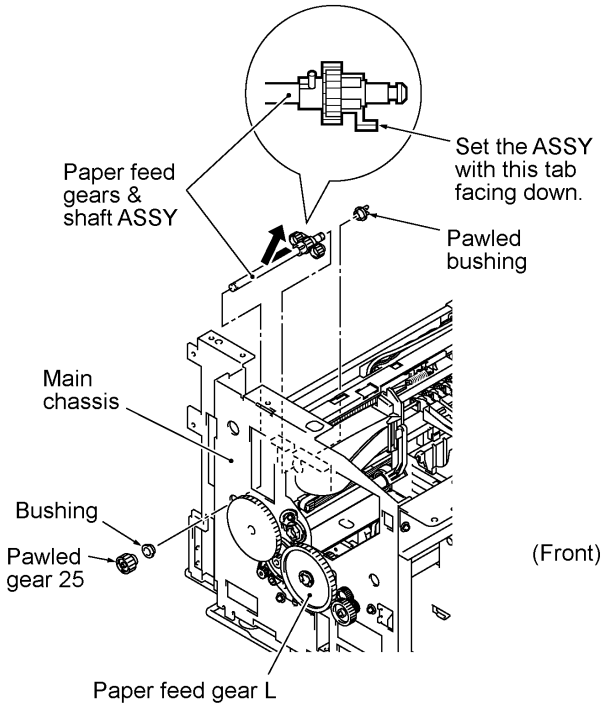
(4) Pull out two pieces of plastic tape as shown below to release the three harnesses (VC harness, paper feed motor harness, and solenoid harness).




(5) Remove the pawled bushing from the right end of the paper feed gears & shaft ASSY by pulling its pawls outwards.

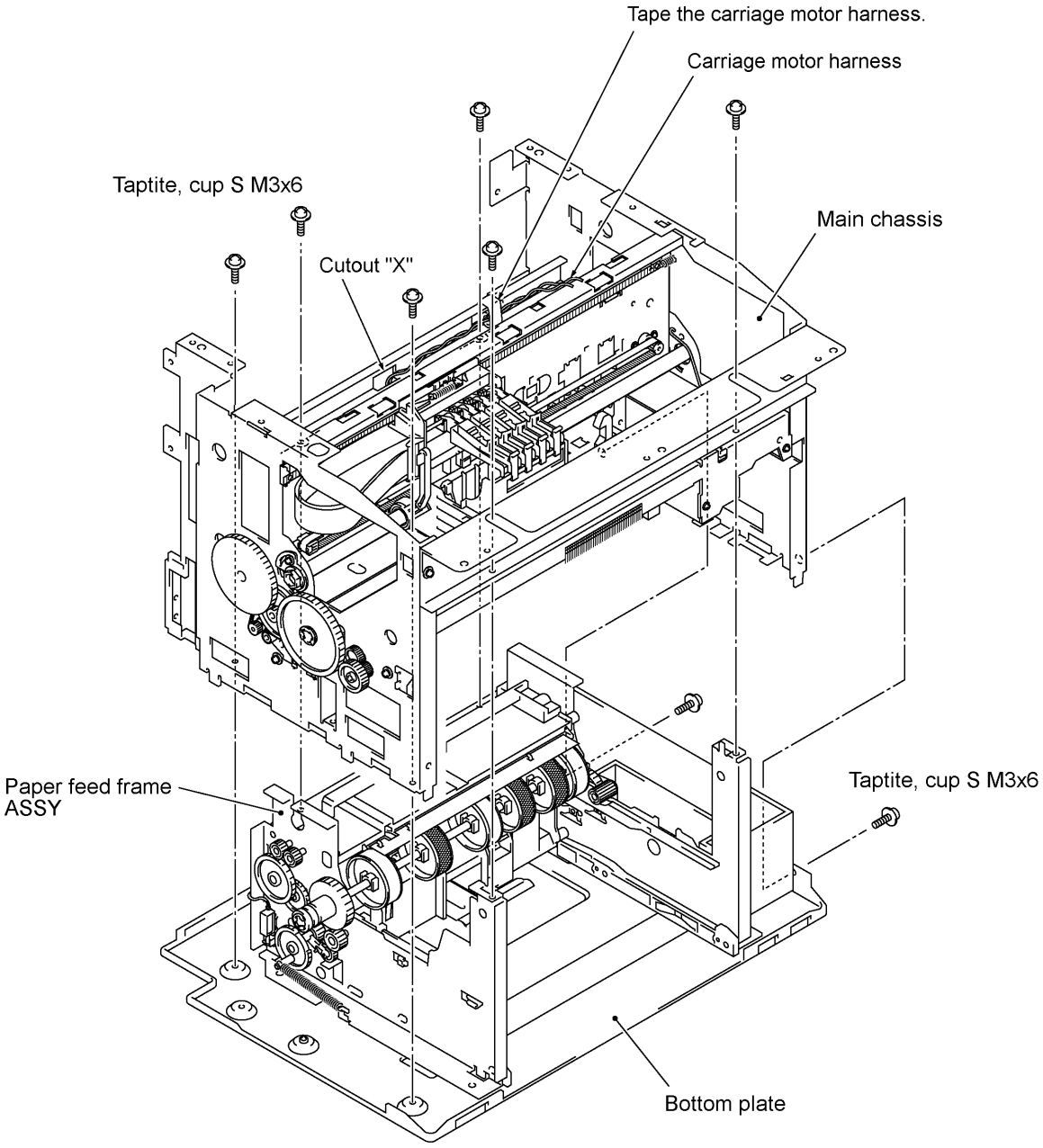
(6) Remove the pawled gear 25 by pulling its pawl outwards and pull out the bushing.

(7) Remove the paper feed gears & shaft ASSY.



(8) Remove eight screws.

(9) Lift up the main chassis.



## n Reassembling Notes

- When reinstalling the main chassis onto the paper feed frame, be sure to:
  - route the carriage motor harness along the top of the main chassis and through cutout "X" provided in the main chassis, and then tape it near the carriage motor as shown on pages IV-49 and IV-64,
  - route the paper width/registration sensor harness and paper ejection/cassette sensor harness through cable guide "Y" provided on the upper paper chute (see page IV-70) and cutout "X" (see page IV-49), and
  - route the paper feed motor harness and VC harness through the cable clamp attached to the NCU bracket (see page IV-36).

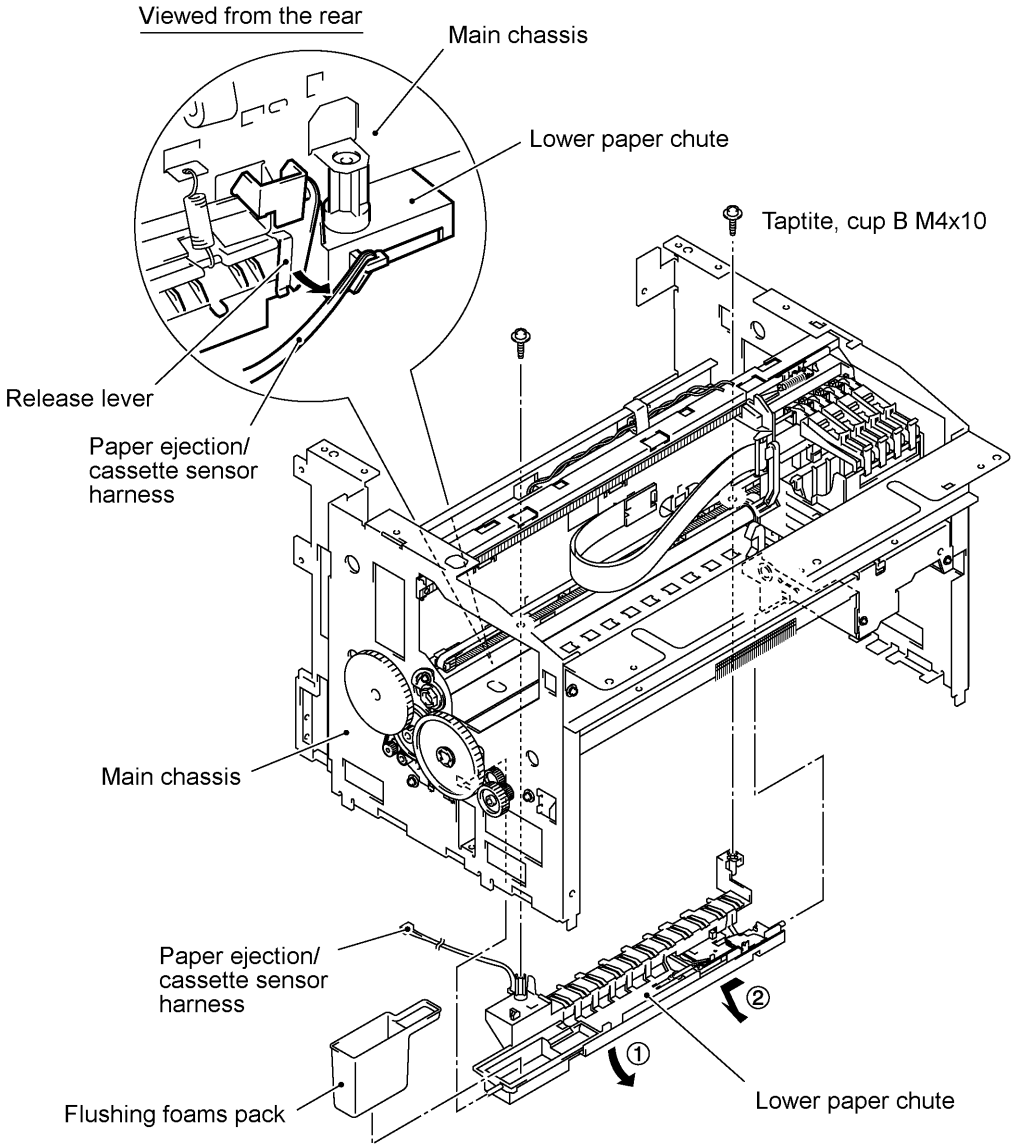
## 1.22 Lower Paper Chute, Flushing Foams Pack, Paper Ejection/Cassette Sensor PCB, and Sensor Actuators

**Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

(1) Remove two screws.

(2) Pull the release lever to the rear and take out the lower paper chute in the direction of arrows • and ❟.

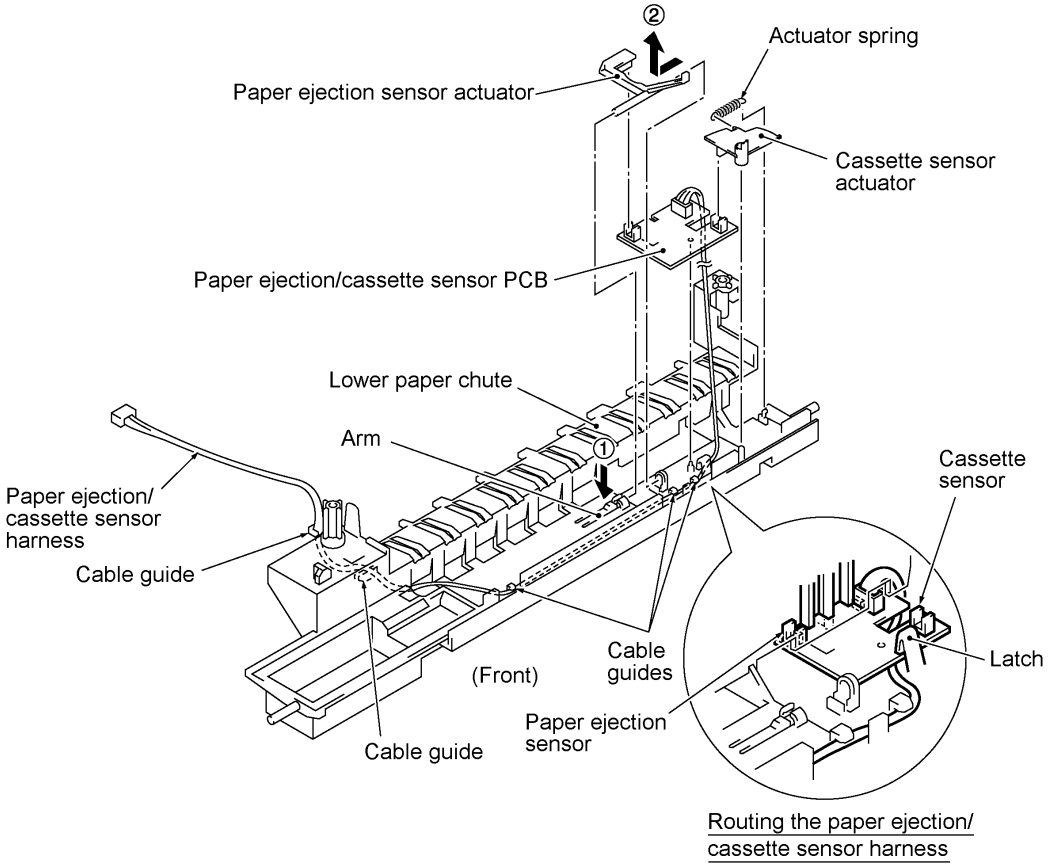
(3) Remove the flushing foams pack.



(4) As shown with arrows • and ❟, press the arm and take out the paper ejection sensor actuator.

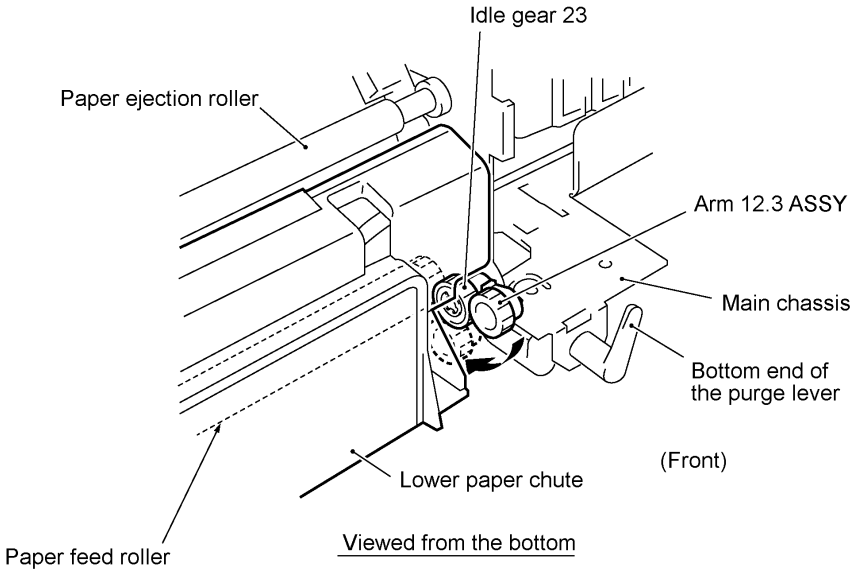
(5) Unhook the actuator spring and remove the cassette sensor actuator.

(6) Pull the latch and take out the paper ejection/cassette sensor PCB.




## n Reassembling Notes

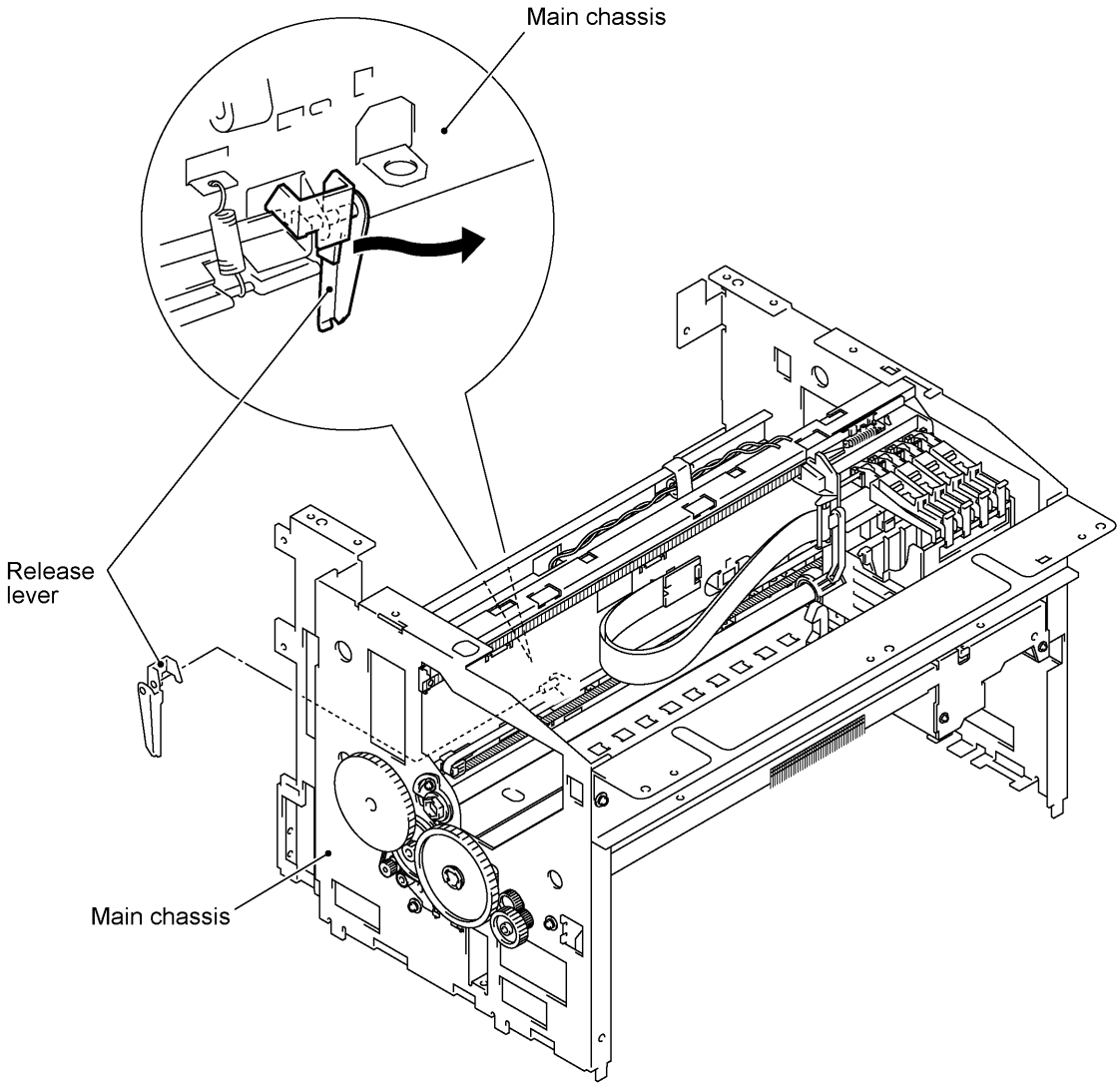
- When setting the lower paper chute back into place, fully turn the arm 12.3 ASSY on the main chassis clockwise (when viewed from the left) as shown below and pull the release lever to the left and outwards (when viewed from the rear as shown on page IV-51).



### 1.23 Paper Pressure Holders

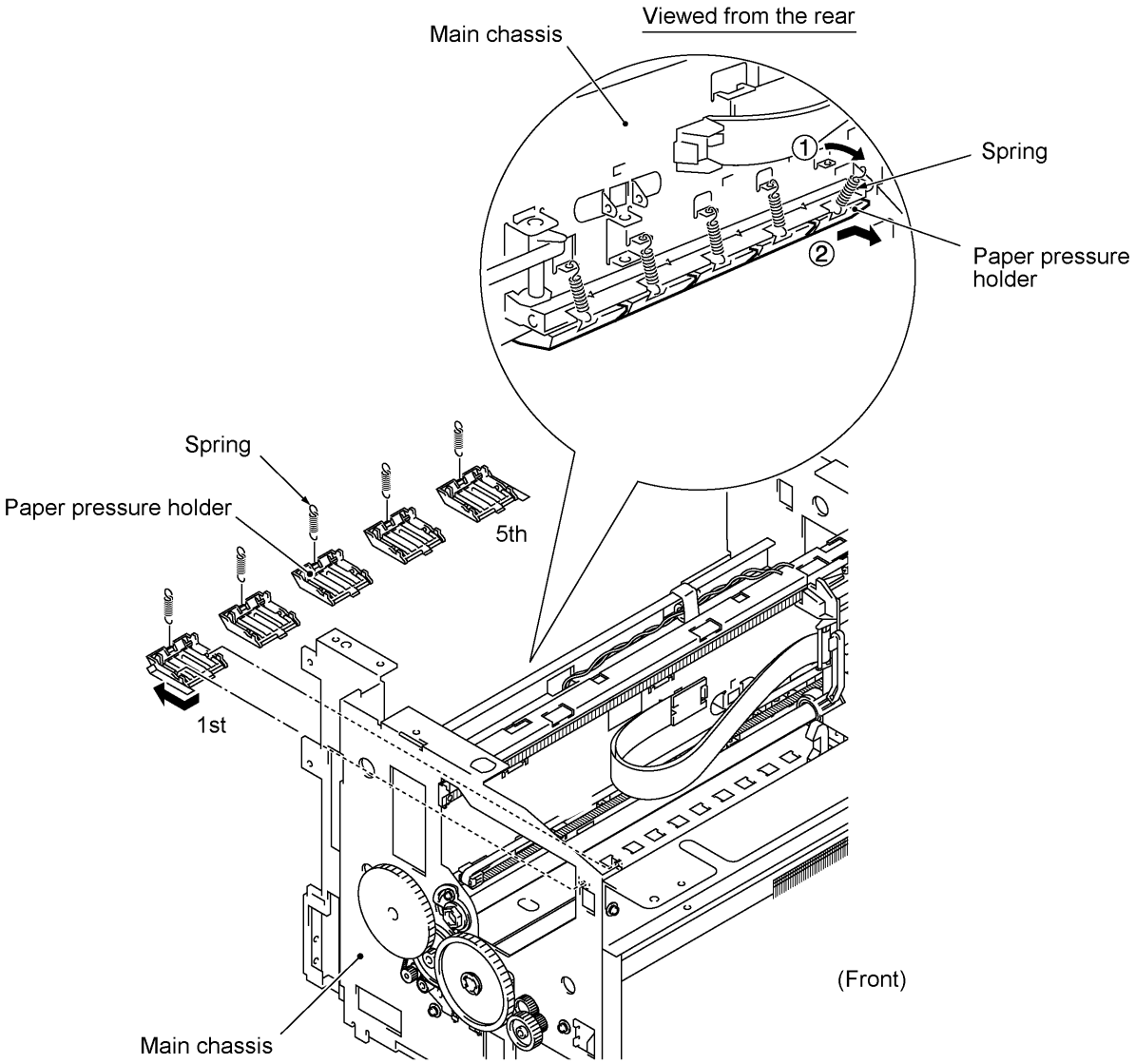
> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

(1) Remove the release lever from the main chassis.



(2) Remove the paper pressure holders and springs according to the instructions below.

- Start the removal work from the right-hand side holder and work your way over to the left-hand side, when viewed from the rear.
- Unhook the top end of the spring from the main frame (in the direction of arrow •), shift the paper pressure holder to the right and pull it out to the rear (arrow ,).




## n Reassembling Notes

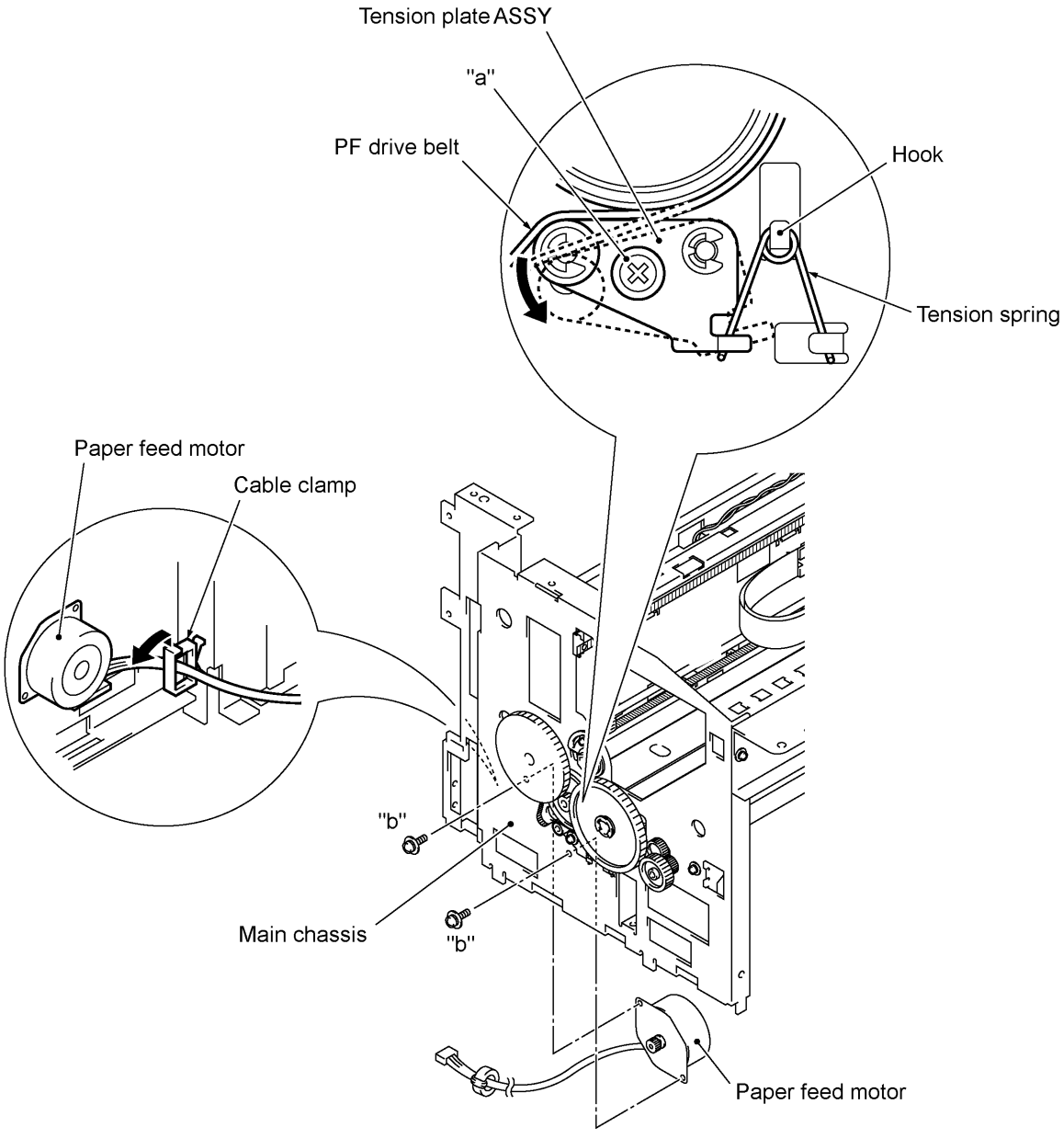
- The paper pressure holders to be placed in the 1st and 5th positions are different in shape with each other and different from other three.
- After installing the paper pressure holders, their springs, and the release lever, pull up the release lever to check that it works normally.

### 1.24 Paper Feed Motor, Paper Feed Gear L, PF Drive Belt, and Tension Plate ASSY

(1) Loosen screw "a" on the tension plate ASSY.

(2) Remove two screws "b" that secures the paper feed motor.

(3) Turn the tension plate ASSY counterclockwise and pull the paper feed motor inwards.




"a" and "b": Screw, pan (washer) M3x8DB

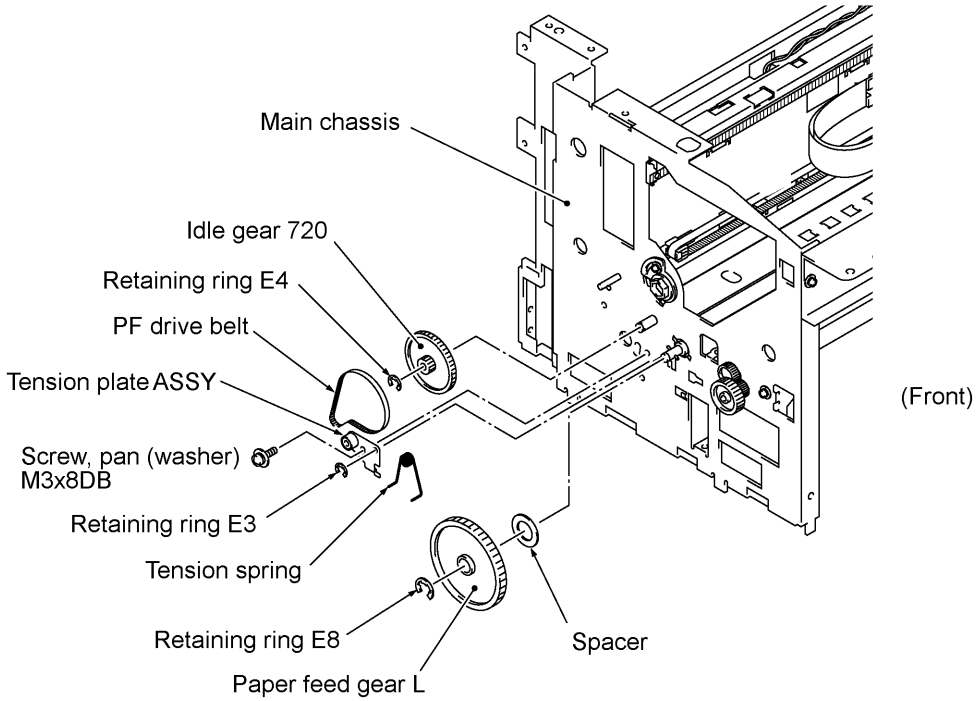
(4) Remove the retaining ring E8, paper feed gear L, and spacer from the left side of the main chassis.

(5) Remove the tension spring.

(6) Remove the PF drive belt from the idle gear 720.

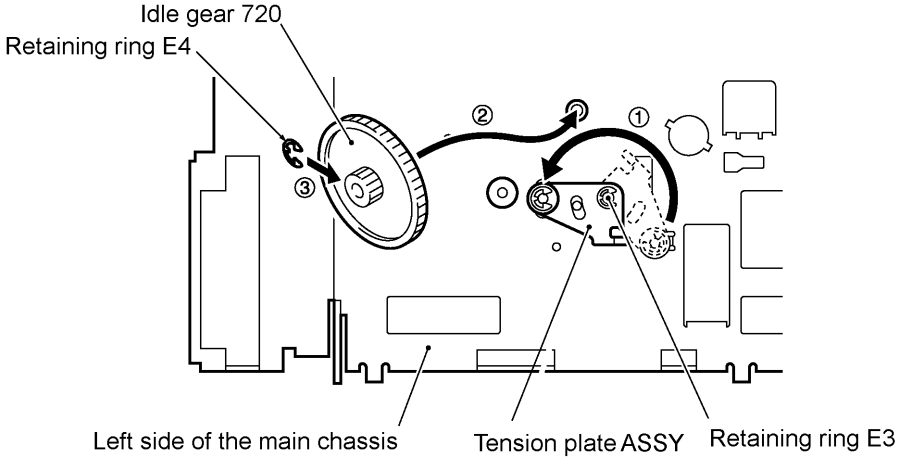
(7) Remove the retaining ring E4 and idle gear 720.

(8) Remove screw "a," retaining ring E3, and tension plate ASSY.

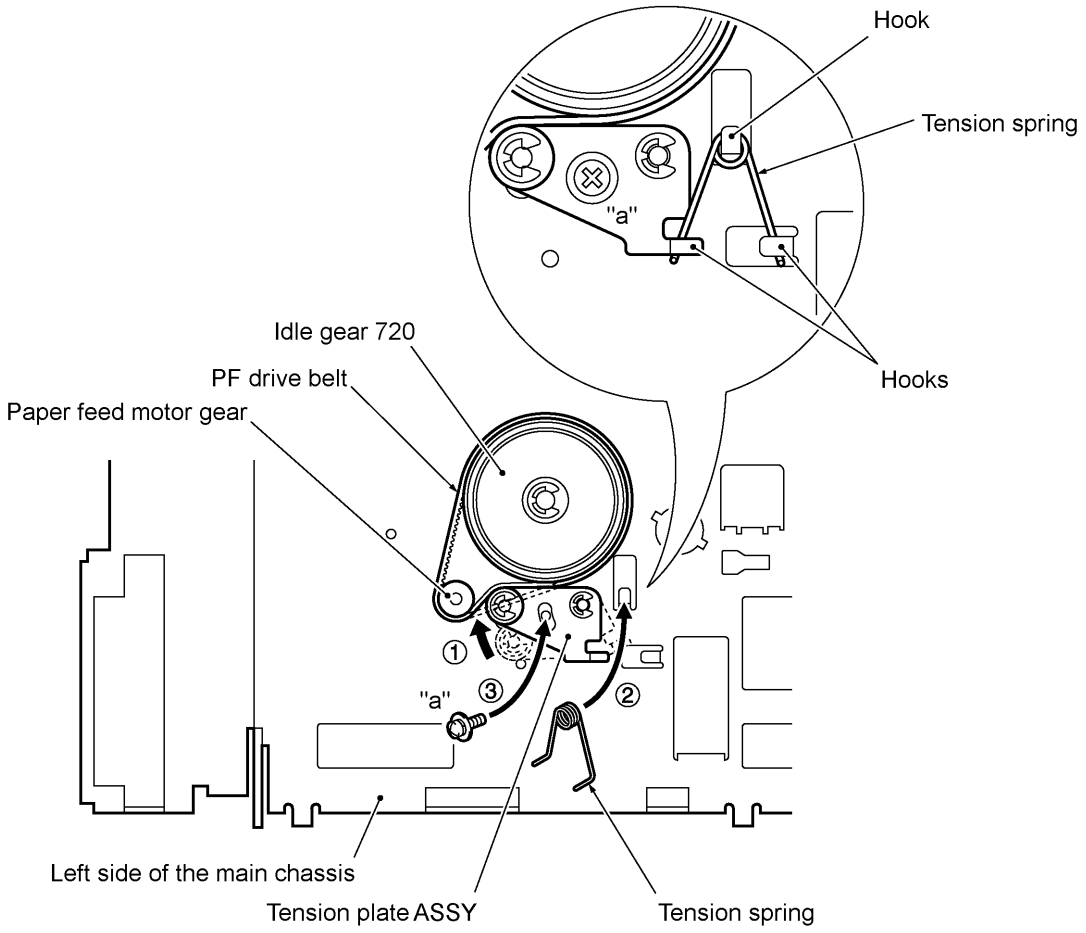



## n Reassembling Notes

- When reinstalling the tension plate ASSY, idle gear 720, and PF drive belt, follow the steps below.
  1) Secure the tension plate ASSY to the left side of the main chassis with retaining ring E3 and turn it counterclockwise (in the direction of arrow •).
  2) Secure the idle gear 720 with the retaining ring E4 (arrows , and ƒ).



3) Secure the paper feed motor with two screws "b" (refer to the illustration given on page IV-55).
4) Put the PF drive belt around the paper feed motor gear and the idle gear 720.
5) Turn the tension plate ASSY clockwise (in the direction of arrow •) to apply tension to the PF drive belt and set the tension spring onto the three hooks (arrow ❟).
6) Secure the tension plate ASSY to the main frame with screw "a" (arrow ƒ).

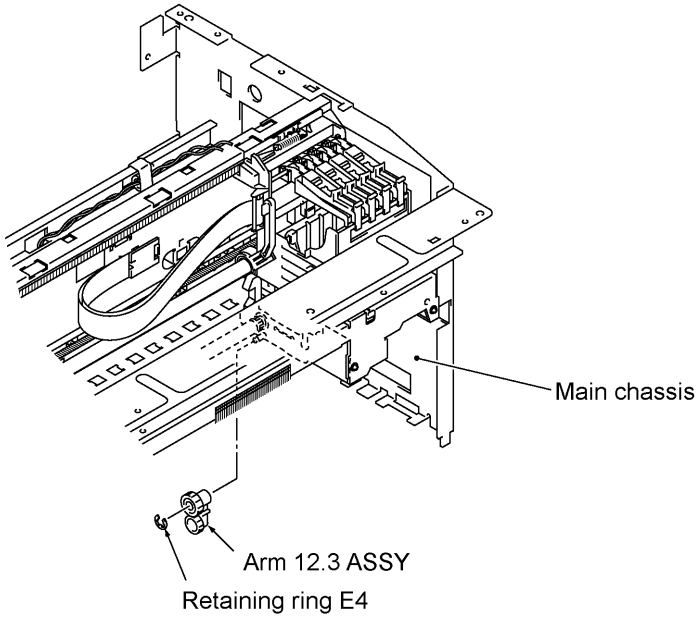


## 1.25 Arm 12.3 ASSY and Paper Feed Roller

> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

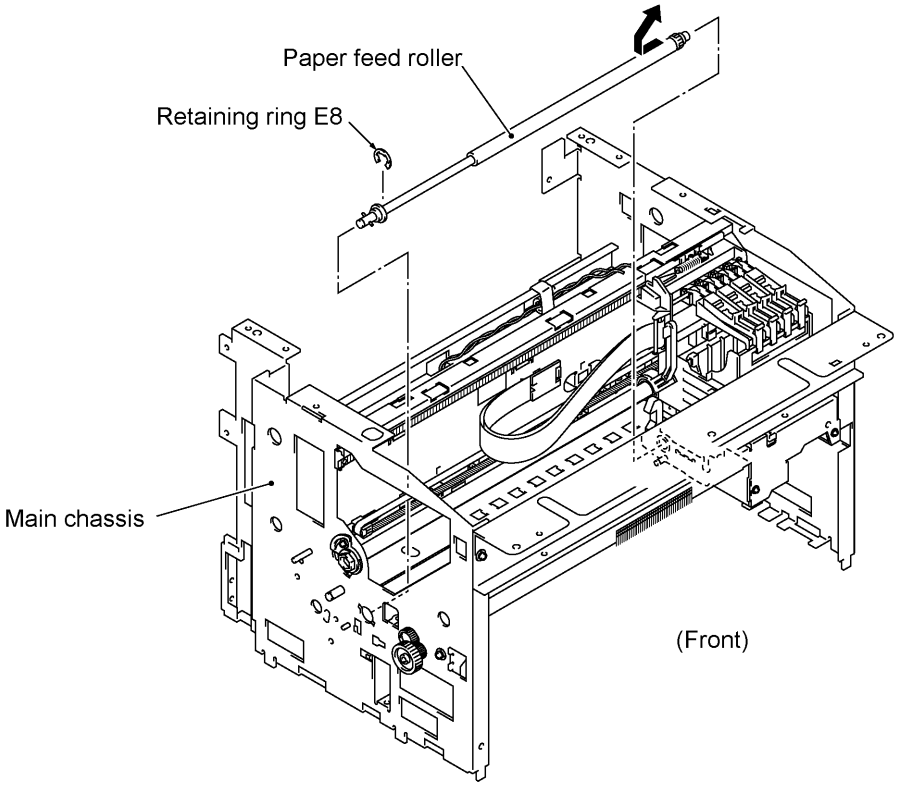
(1) Make sure that the carriage is placed in the home position.

(2) Remove the retaining ring E4 from the arm 12.3 ASSY and take it off from the main chassis.



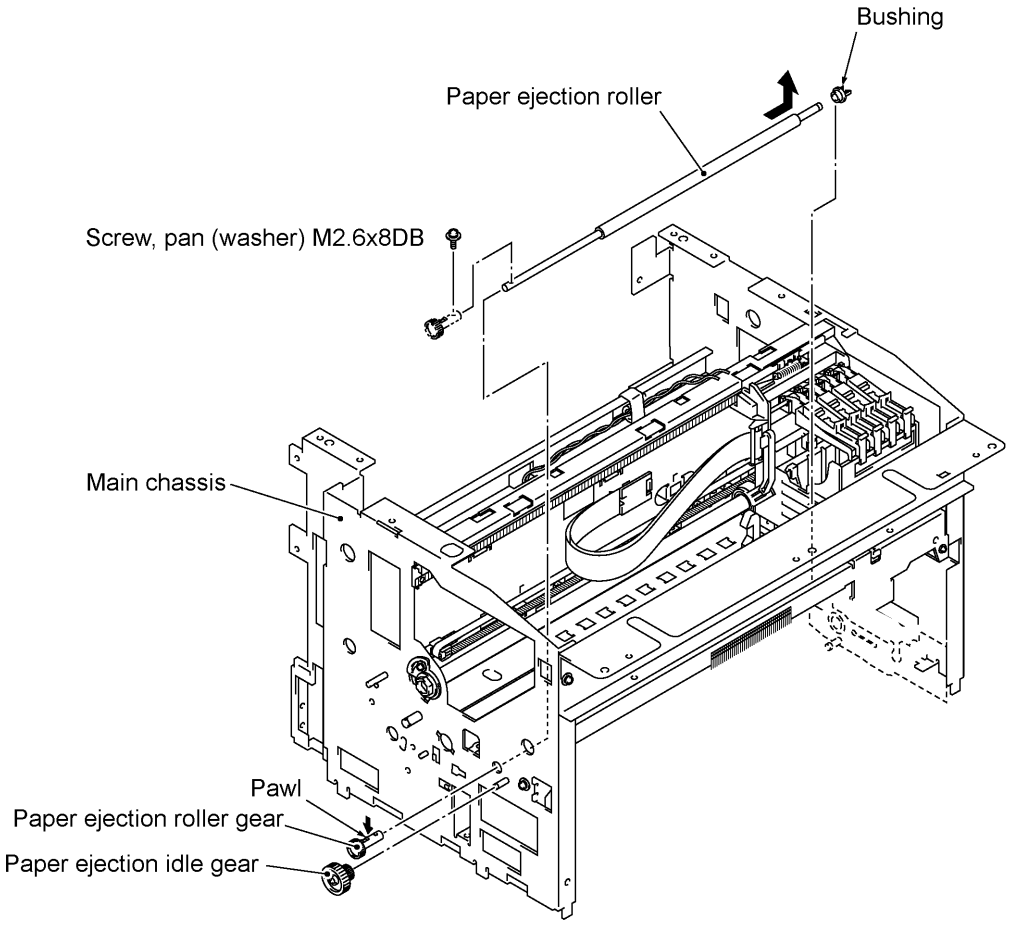

(3) Remove the retaining ring E8 from the left end of the paper feed roller shaft inside the main chassis.

(4) Take out the paper feed roller in the direction of the arrow.



### 1.26 Paper Ejection Roller

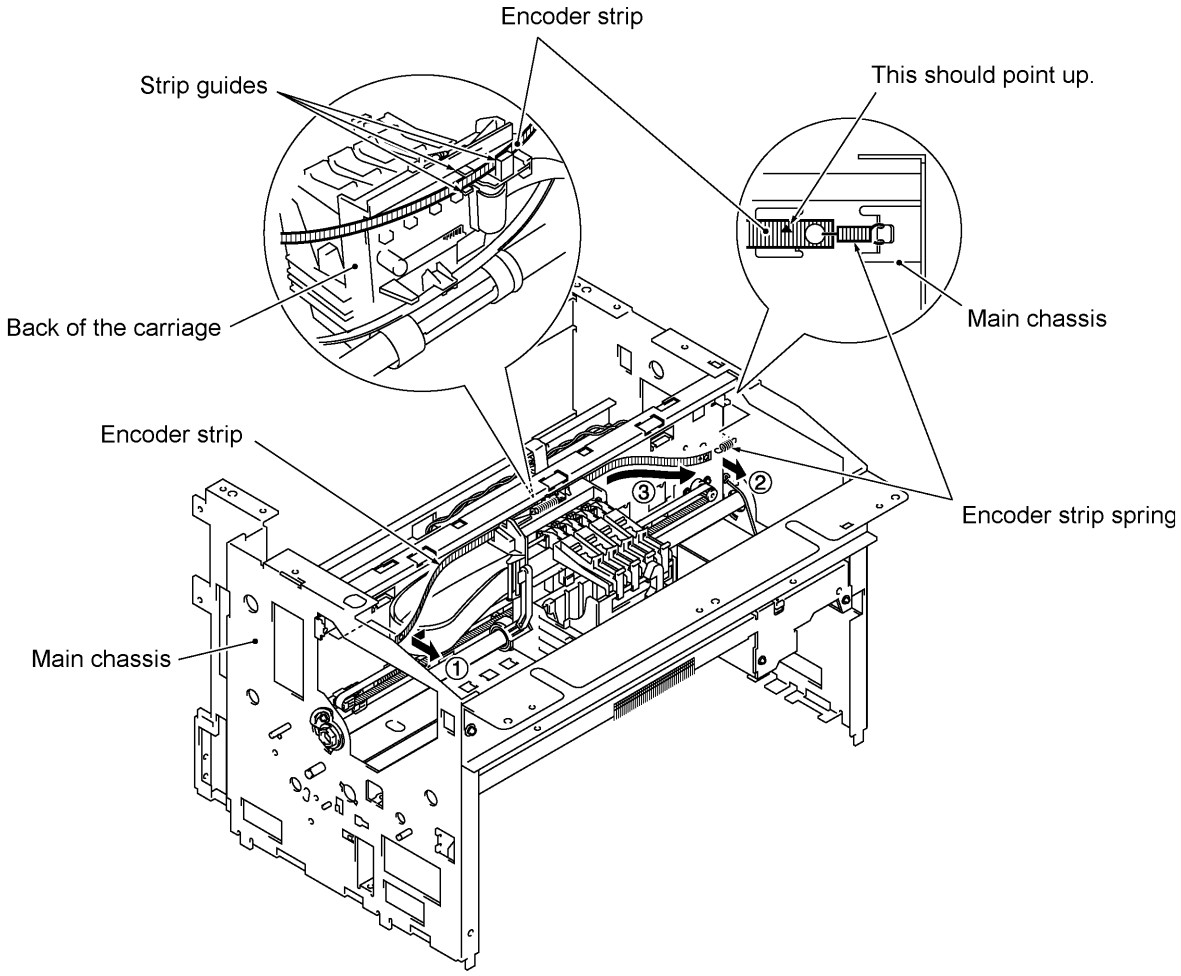
(1) Make sure that the carriage is placed in the home position.
(2) Remove the paper ejection idle gear by pulling its pawl outwards.
(3) Remove the screw from the paper ejection roller gear.
(4) Take out the paper ejection roller with the bushing in the direction of the arrow.
(5) Push the pawl of the paper ejection roller gear and remove it to the left.



### 1.27 Encoder Strip

(1) Take off the encoder strip by removing its spring.

**NOTE:** Take care not to scratch or damage the encoder strip.



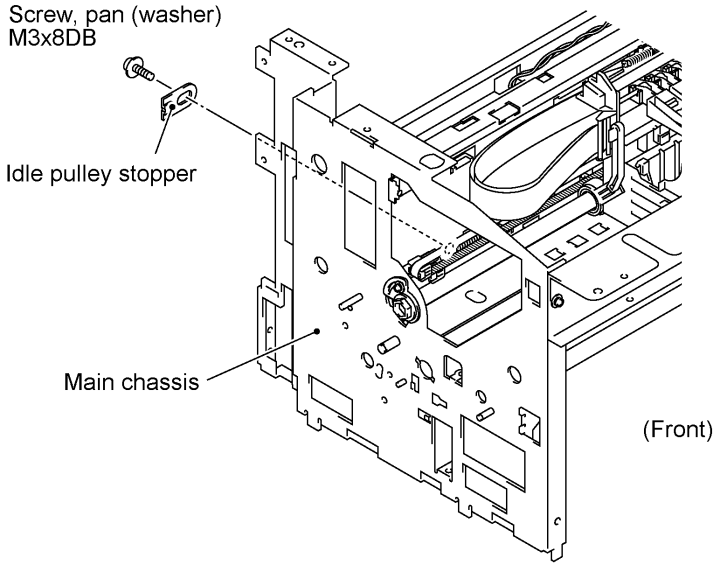

**n Reassembling Notes**

- Pass the encoder strip through the back of the carriage so that the strip will route as illustrated above and the ▲-marked end comes to the right. Then hook the ▲-marked end on the spring of the main chassis so that the ▲ mark points up.

## 1.28 Carriage Rail, Carriage ASSY, and Carriage Motor

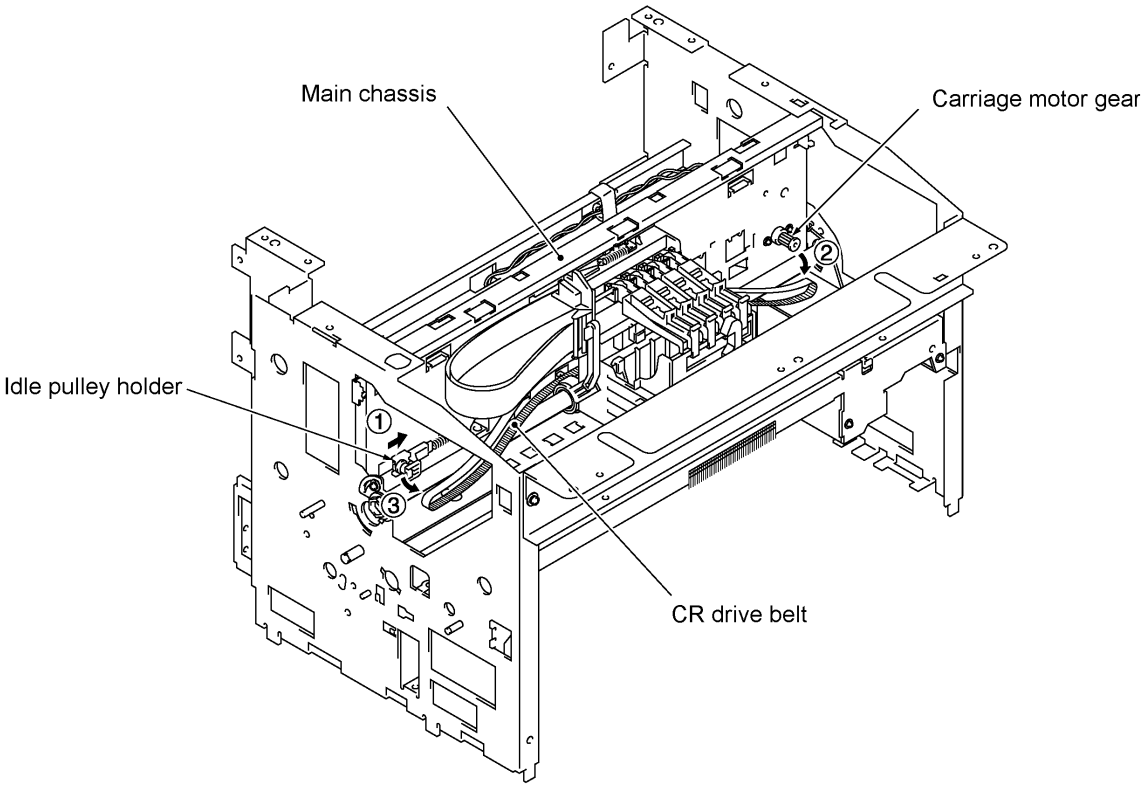
> **Caution** Once the components given in this subsection are removed, it is recommended that the gap adjustment jig be used for accurate head-platen gap. Refer to Section 3, "ADJUSTMENT" in this chapter.

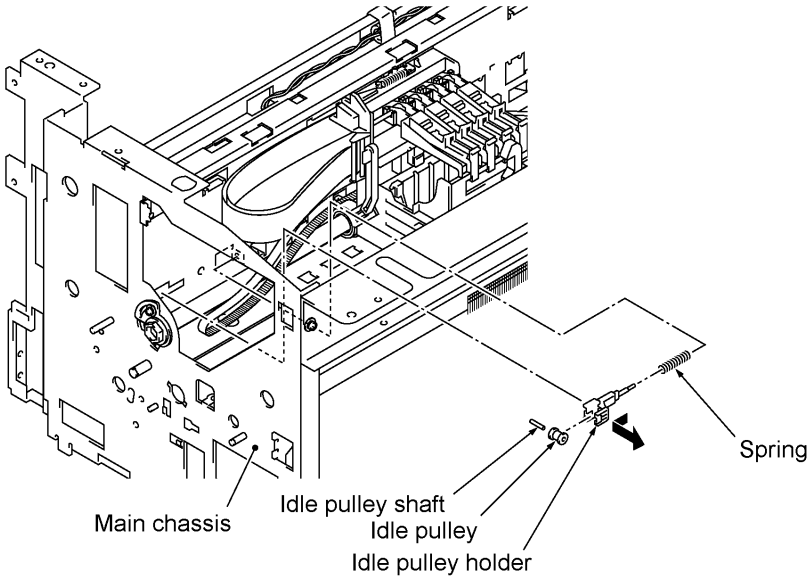
(1) Take off the idle pulley stopper by removing the screw.




(2) While pushing the idle pulley holder to the right (in the direction of arrow •), remove the CR drive belt from the carriage motor gear (arrow ❟). Then remove the CR drive belt from the idle pulley holder (arrow ƒ) and take off the idle pulley holder from the main chassis.

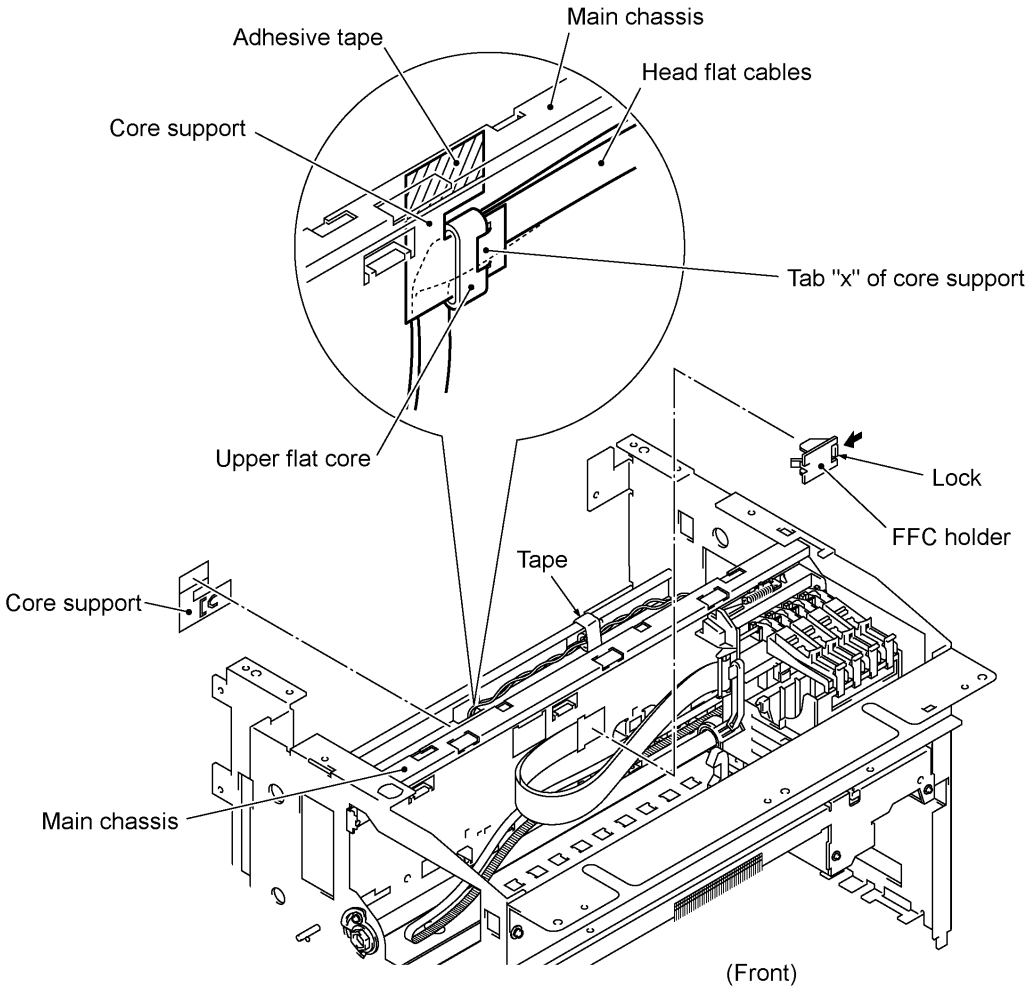
On the idle pulley holder are the idle pulley, idle pulley shaft, and spring as shown on the next page.





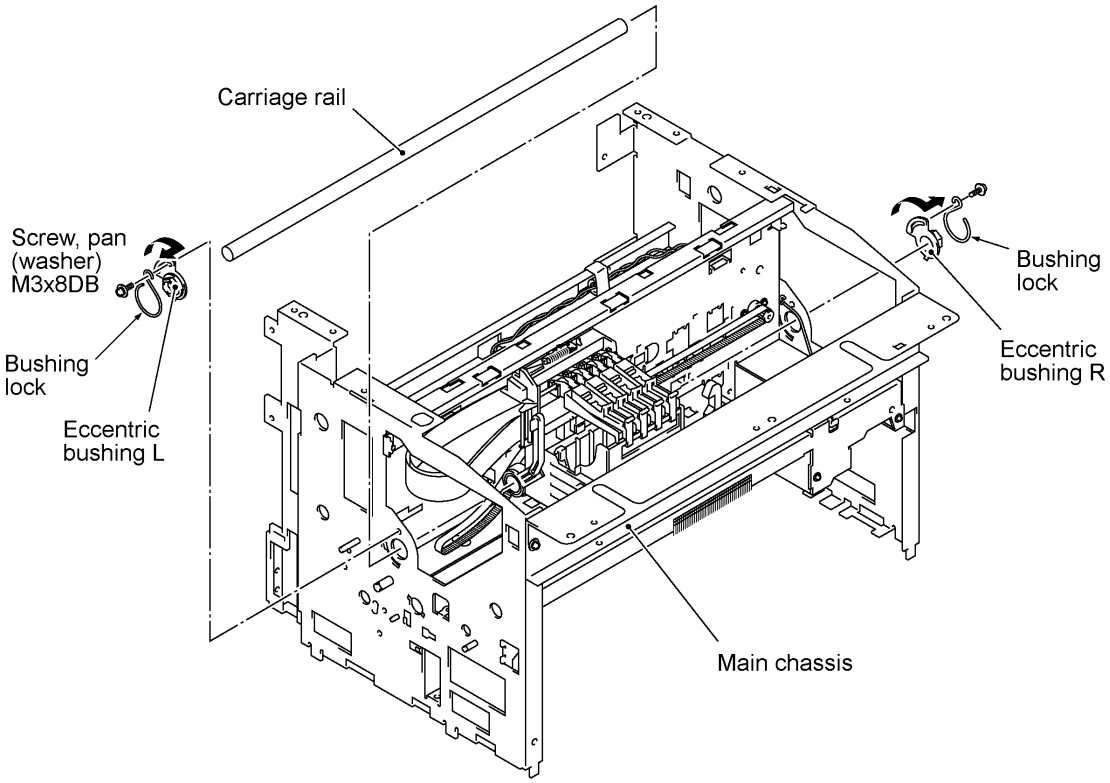

(3) Unhook the lock of the FFC holder and remove the holder by pushing it from the rear. This releases the head flat cables.

(4) Take off the upper flat core and the head flat cables from the core support. Then remove the core support.



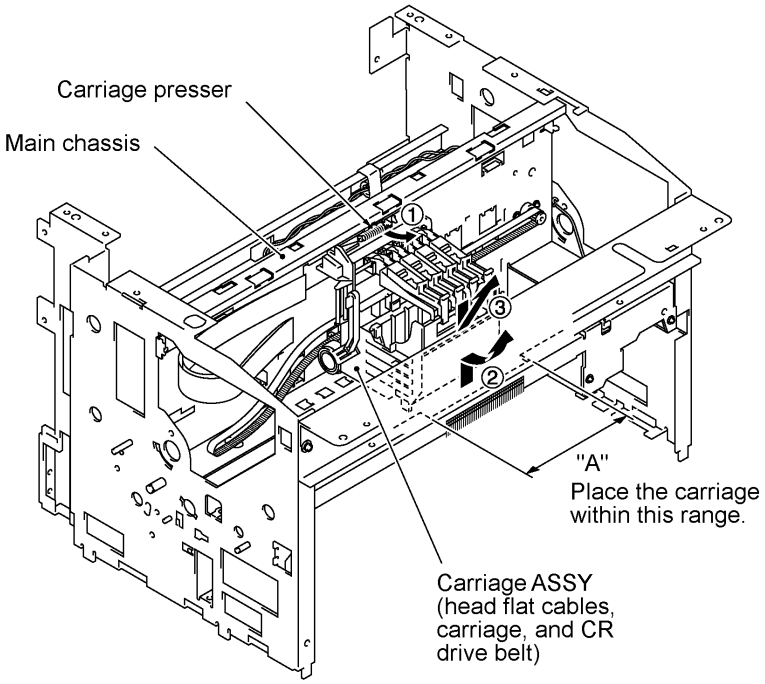
(5) Make sure that the ink cartridges and print head have been removed.

(6) Remove the screw from the eccentric bushing L and take off the bushing lock. Then turn the bushing clockwise (when viewed from the left) until its pawl becomes aligned with the cutout provided in the main frame, and then pull out the bushing L and carriage rail. In the same way, remove the eccentric bushing R.

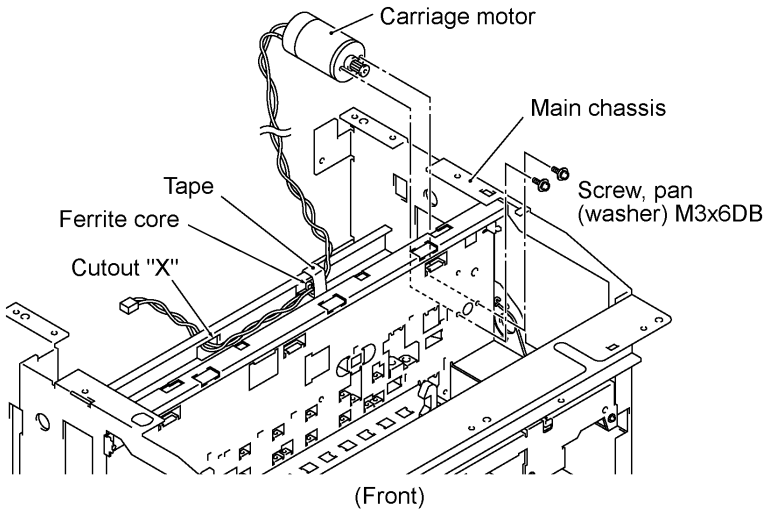



(7) Bring the carriage to the center of the travel ("A" range shown below).

(8) First pull the carriage presser to the front, lift up the carriage to take off the lower edge from the main chassis, and take out the carriage ASSY (the head flat cables, carriage, and CR drive belt).

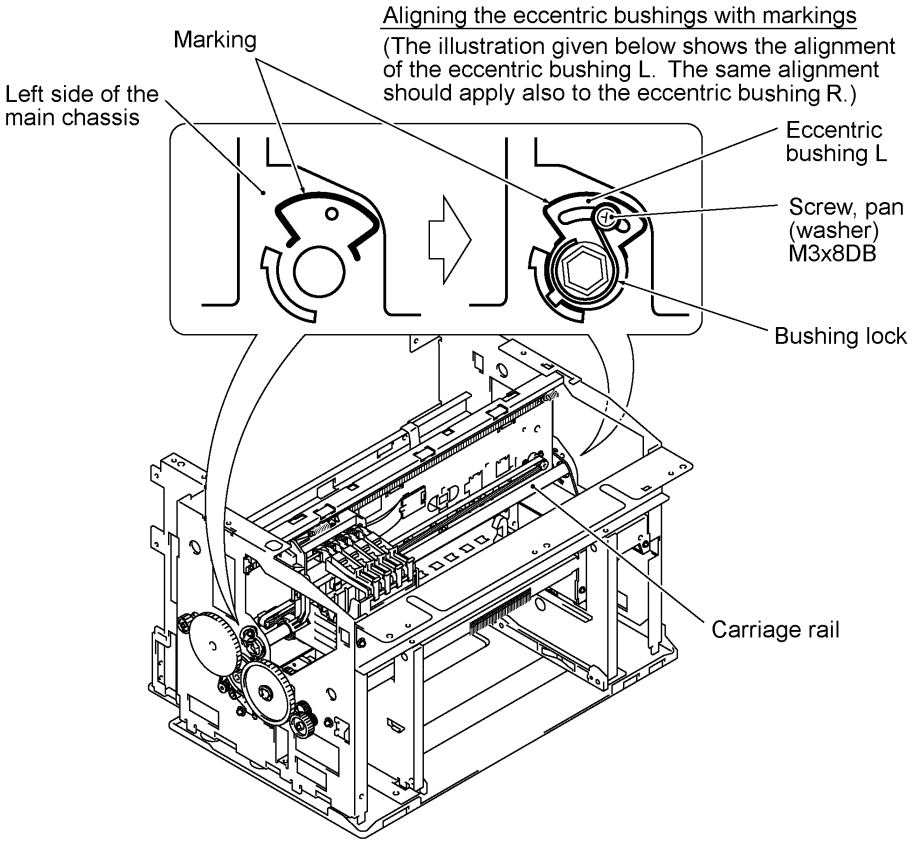


(9) Remove the two screws and tape, then take off the carriage motor.




## n Reassembling Notes

- When reinstalling the carriage rail, fit the eccentric bushings R and L onto the ends of the carriage rail, set the bushing locks, and temporarily secure them with screws. Then align those bushings with markings made on the main chassis and tighten those screws firmly. This alignment is required for keeping the head-platen gap properly. (It is recommended that the gap adjustment jig be used for accurate head-platen gap. Refer to Section 3.2.)


Aligning the eccentric bushings with markings
(The illustration given below shows the alignment of the eccentric bushing L. The same alignment should apply also to the eccentric bushing R.)
Marking
Left side of the main chassis
Eccentric bushing L
Screw, pan (washer) M3x8DB
Bushing lock
Carriage rail

- If you replace the carriage ASSY, be sure to set the sensing reference levels of the black ink empty sensor (function code: 57), (Refer to Chapter V, Subsection 3.10.)
- When routing the head flat cables, hook the upper flat core on the core support attached to the back of the main chassis and make tab "x" of the core support catch the upper flat core as shown on page IV-62. Next, tape those cables to the main chassis.

### 1.29 Ink Absorbers

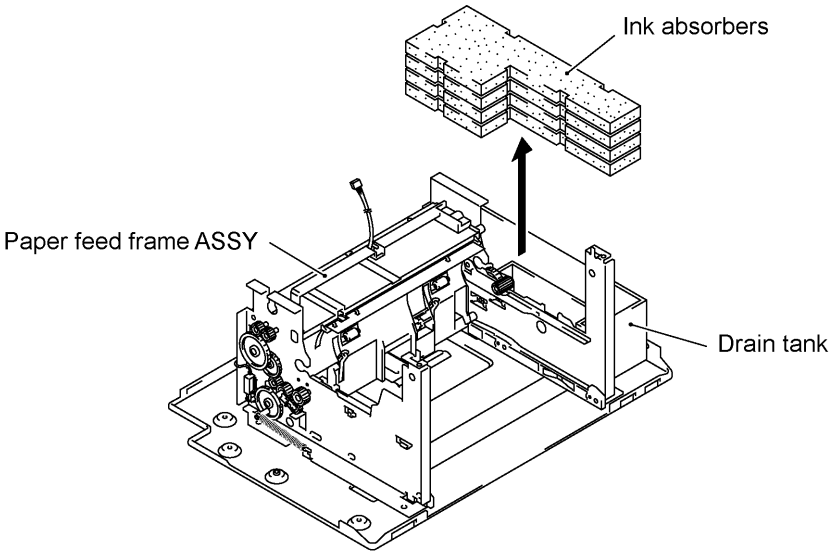
> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

After the main PCB is replaced with any other one, you need to replace the ink absorbers with new ones.

(1) Pull out the ink absorbers from the drain tank.

**NOTE:** Use vinyl gloves to prevent your hands from becoming dirty.

(2) If the main chassis or the surrounding parts are stained with ink, wipe them with a waste cloth.



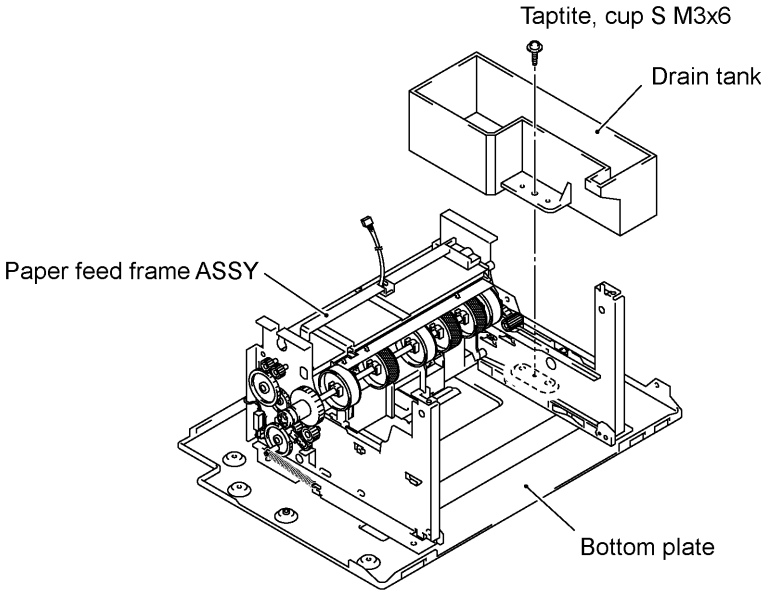

**n Reassembling Notes**

- When setting ink absorbers into the drain tank, use a screwdriver and the like.

### 1.30 Drain Tank

> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

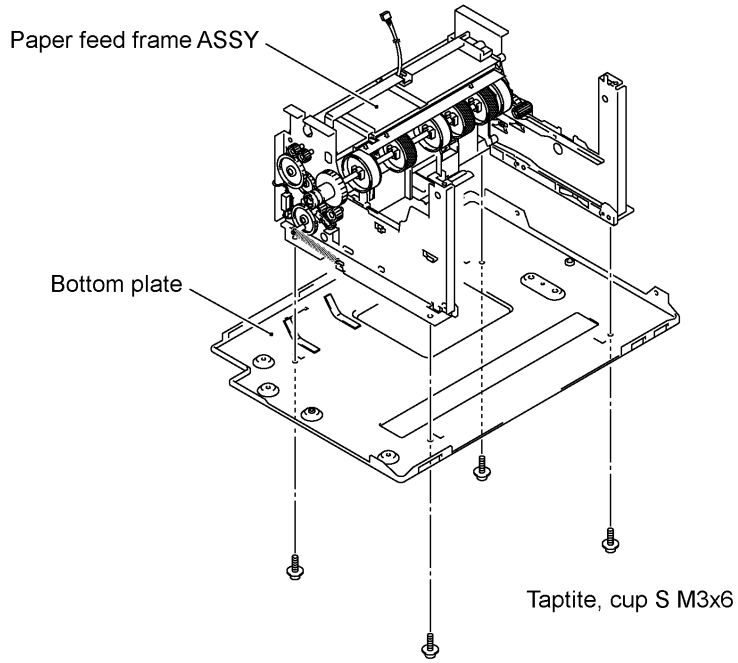
(1) Remove the screw and lift up the drain tank from the bottom plate.



### 1.31 Bottom Plate

> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

(1) Remove four screws and lift up the paper feed frame ASSY.




### 1.32 Paper Pick-up Roller ASSY, Separation Pad, and Solenoid

> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

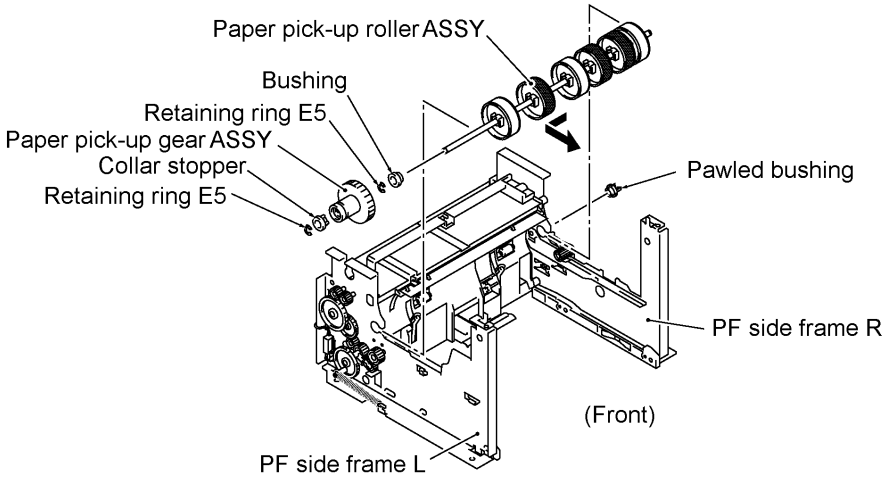
(1) Remove the retaining ring E5 from the left end of the paper pick-up roller shaft, then pull out the collar stopper and paper pick-up gear ASSY.

(2) Remove the retaining ring E5 and pull out the bushing.

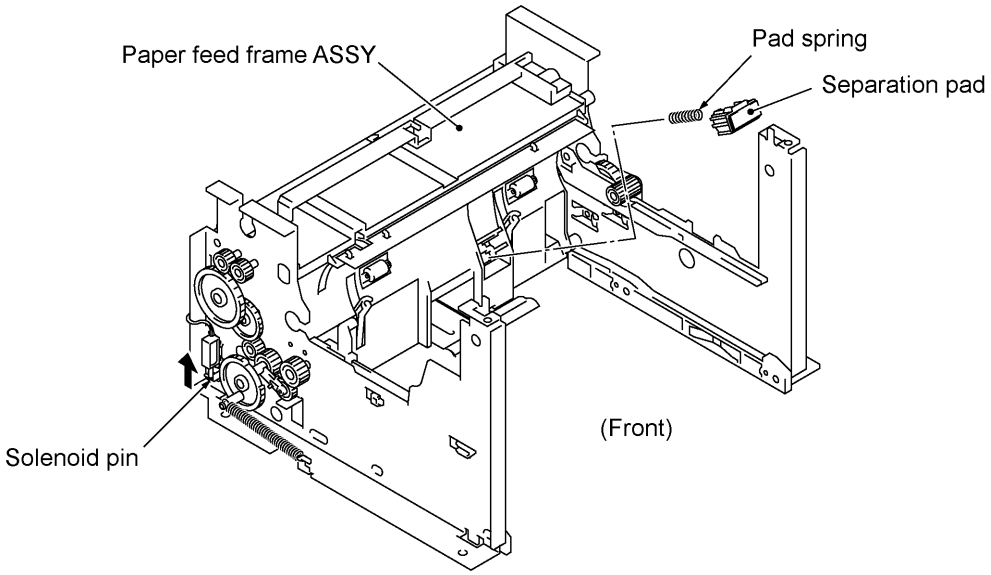
(3) Remove the pawled bushing from the right end of the paper pick-up roller shaft by pulling its pawls outwards.

(4) Remove the paper pick-up roller ASSY in the direction of the arrow, taking care not to break the registration sensor actuator.

**NOTE:** Keep the paper pick-up rollers away from grease.

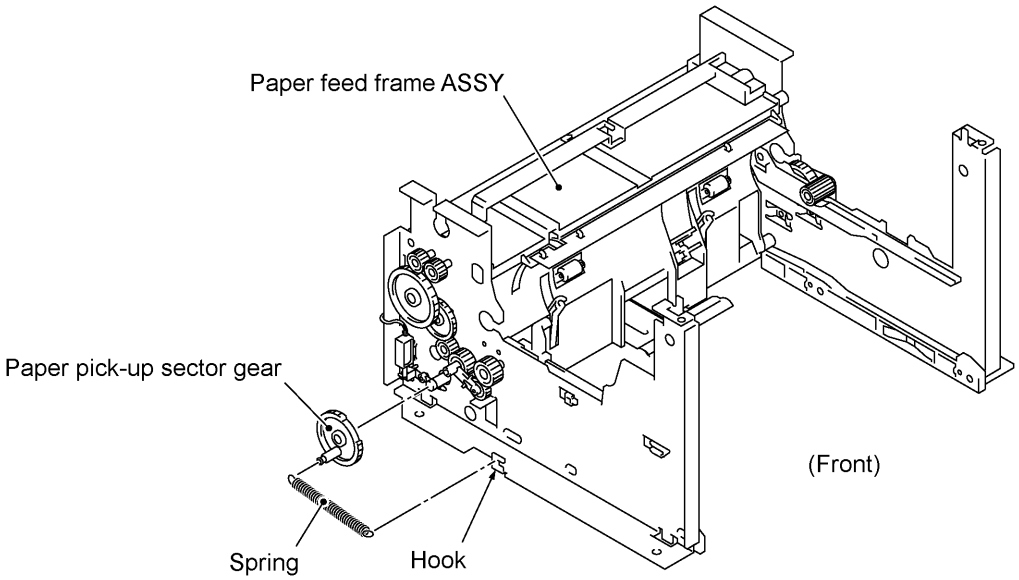


(5) Push up the solenoid pin, and the separation pad comes off with its spring.

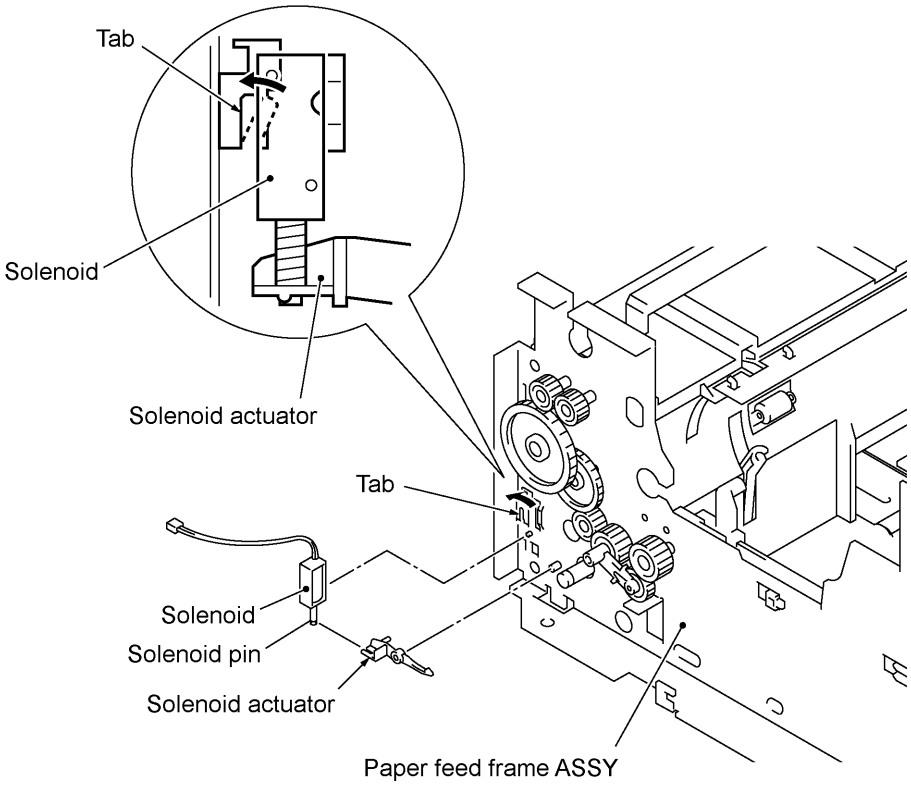



(6) Unhook the spring.

(7) Remove the paper pick-up sector gear by pulling its pawl outwards.

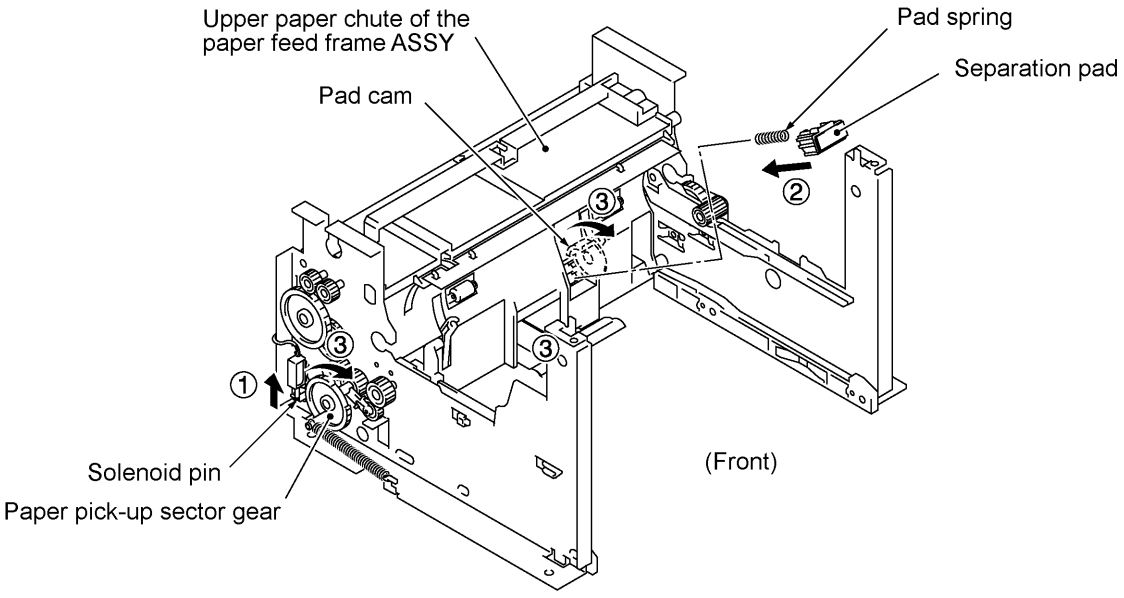


(8) Pull the tab provided on the paper feed frame ASSY outwards and remove the solenoid. The solenoid actuator, spring, and pin also come off.




## n Reassembling Notes

- When setting the separation pad back into place, push up the solenoid pin (in the direction of arrow •), put the separation pad and its spring into the cutout provided in the upper paper chute of the paper feed frame ASSY (arrow ❟), and turn the paper pick-up sector gear clockwise (arrow ƒ).



## 1.33 Disassembly of Paper Feed Frame ASSY

> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

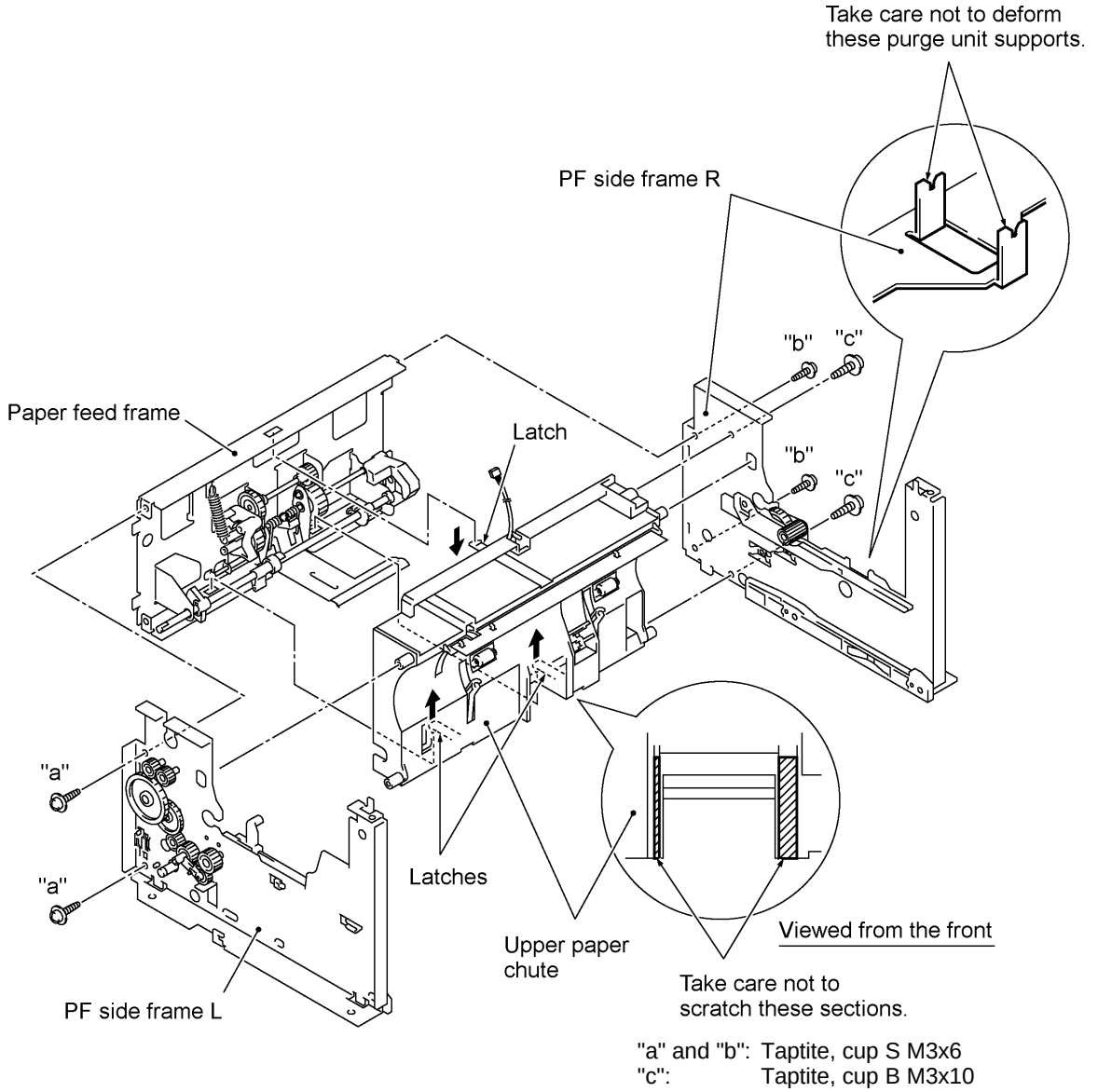
(1) Remove two screws "a" and take off the PF side frame L.

**CAUTION:** Do not place the paper feed frame ASSY with the PF side frame R facing down. Doing so will deform the purge unit supports.

(2) Remove four screws (two "b" and two "c") and take off the PF side frame R.

(3) Unhook the three latches and separate the upper paper chute from the paper feed frame.

**CAUTION:** When separating the upper paper chute, take care not to scratch hatched sections shown below which are used as the positioning face of the paper leading edge.




### n Reassembling Notes

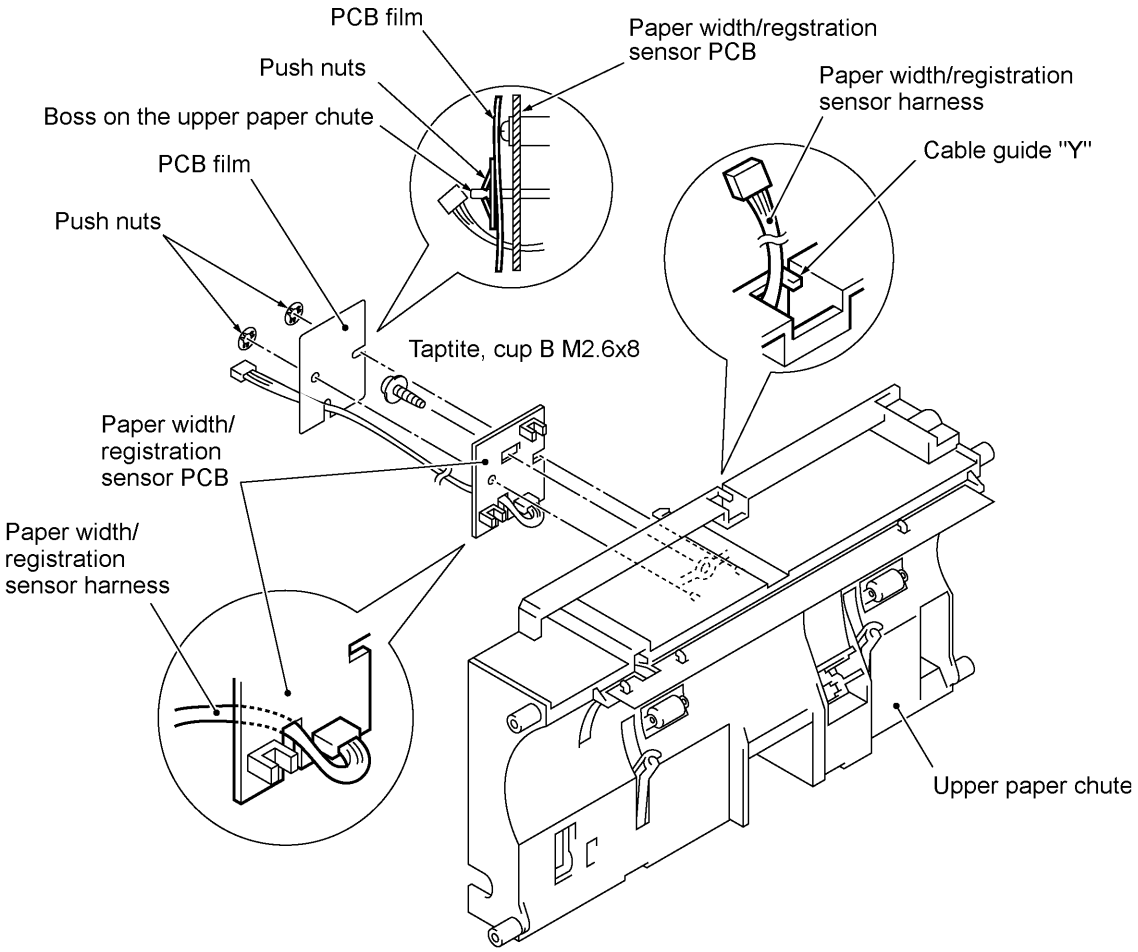
- Take care not to contaminate the upper paper chute, separation pad, and rollers with grease applied to the paper feed frame.

## 1.34 Paper Width/Registration Sensor PCB

> **Caution** Once removed, the components given in this subsection require the purge unit adjuster for reassembly. Refer to Section 3, "ADJUSTMENT" in this chapter.

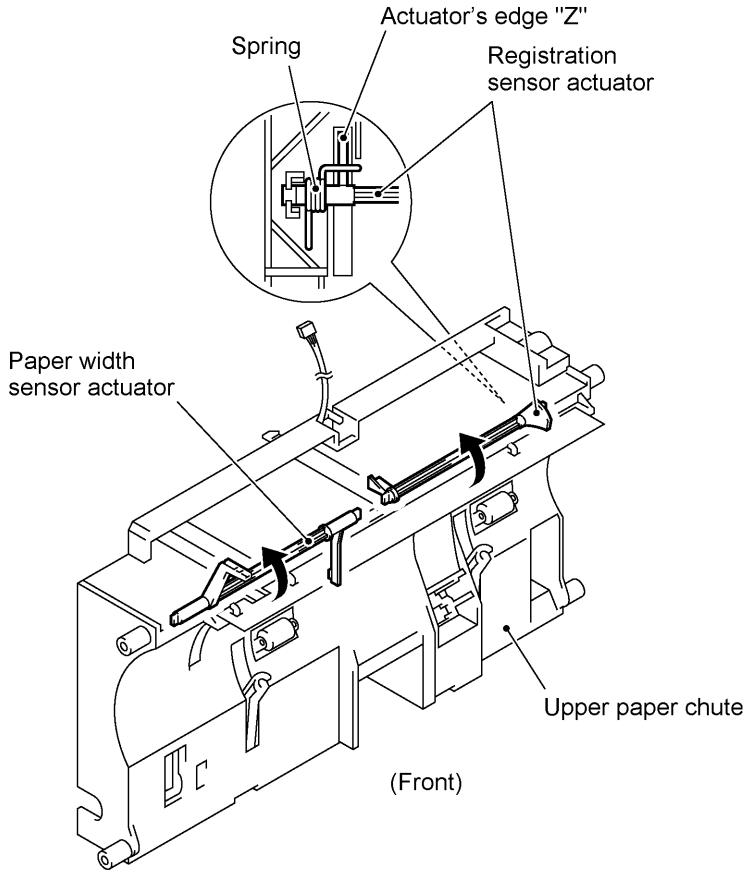
(1) Remove two push nuts and take off the PCB film

(2) Remove the screw and take off the paper width/registration sensor PCB from the upper paper chute.



## n Reassembling Notes

- After putting the registration sensor actuator back into place, turn it so that the spring will be hooked on actuator's edge "Z" as shown below, and then set the paper width/registration sensor PCB.
- When setting the paper width/registration sensor PCB, route the harness as shown on the previous page.
- After securing the paper width/registration sensor PCB, check that the sensor actuators move smoothly.

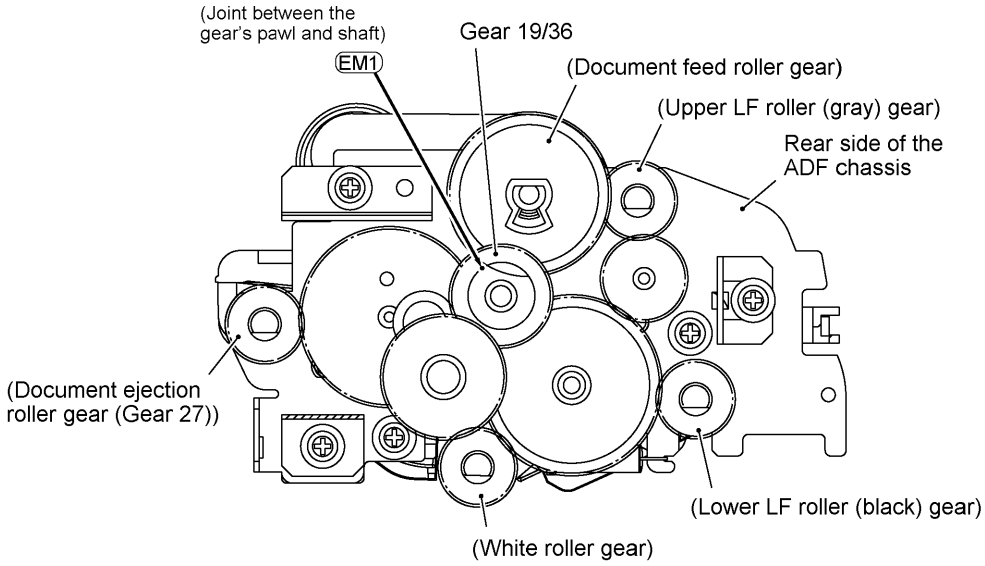


# 2. LUBRICATION

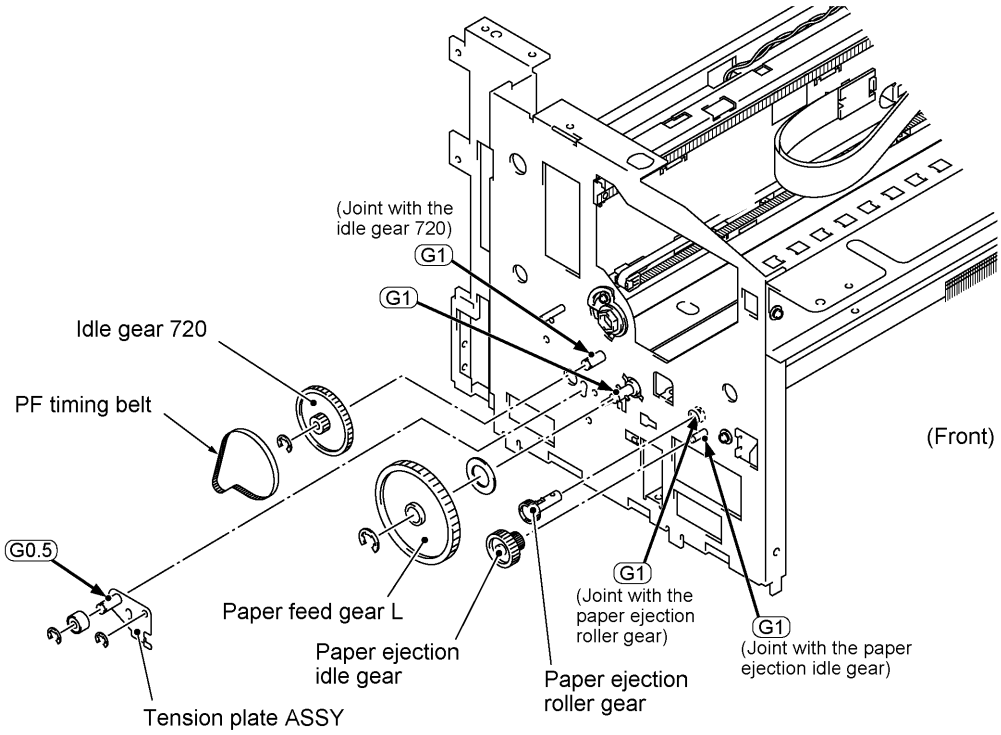
Apply the following lubricants to the lubrication points as illustrated below.

| Lubricant type (Manufacturer) | Lubricant amount | | | |
|---|---|---|---|---|
| | Thin coat of grease with brush (1 $mm^3$) | Half of a rice-sized pinch of grease (3 $mm^3$) | Rice-sized pinch of grease (6 $mm^3$) | Approx. 20 $mm^3$ |
| Molykote EM-30LG or -30L (Dow Corning) | ——— | ——— | (EM1) | ——— |
| Silicone grease G501 (Shin-etsu Silicone) | ——— | (G0.5) | (G1) | ——— |
| Conductive grease FLOIL 951P-32 (Kanto Kasei Ltd.) | (GE0.2) | ——— | ——— | (GE3) |

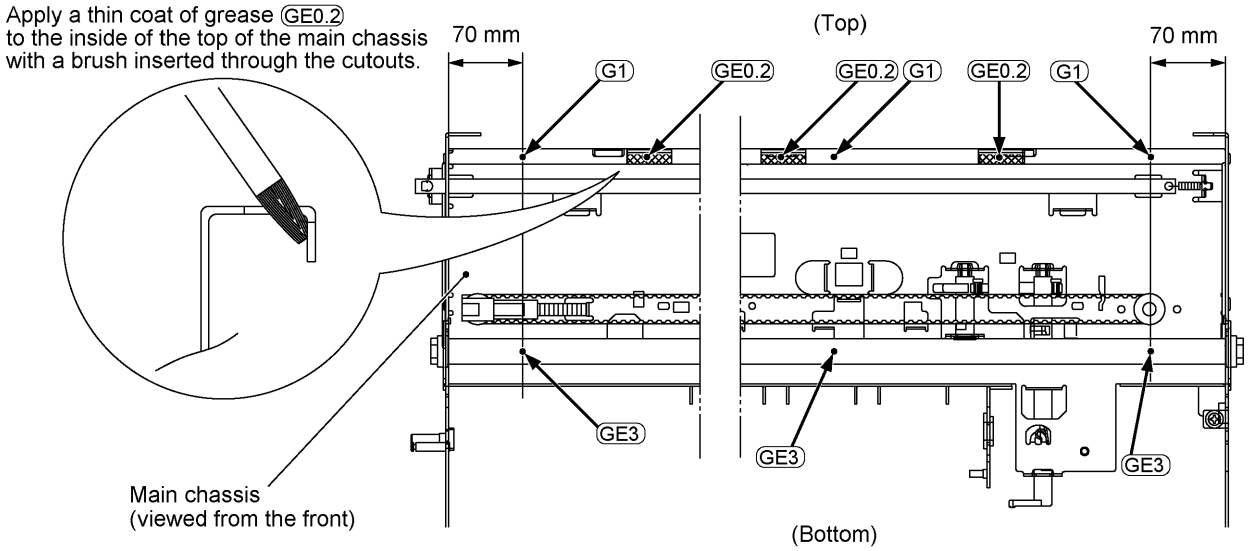
### [ 1 ] ADF unit


(Joint between the gear's pawl and shaft)
EM1
Gear 19/36
(Document feed roller gear)
(Upper LF roller (gray) gear)
Rear side of the ADF chassis
(Document ejection roller gear (Gear 27))
(Lower LF roller (black) gear)
(White roller gear)

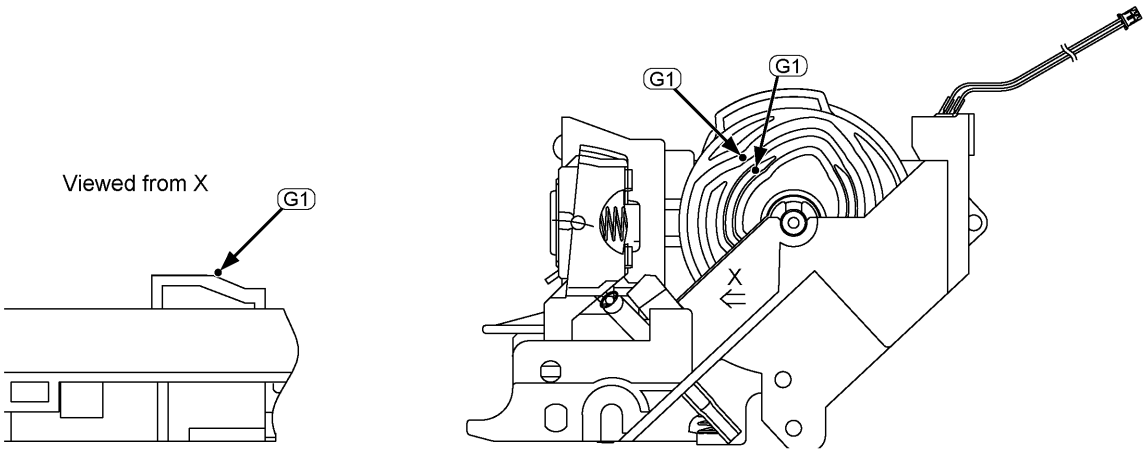
## [ 2 ] Shafts on the left side of the main chassis



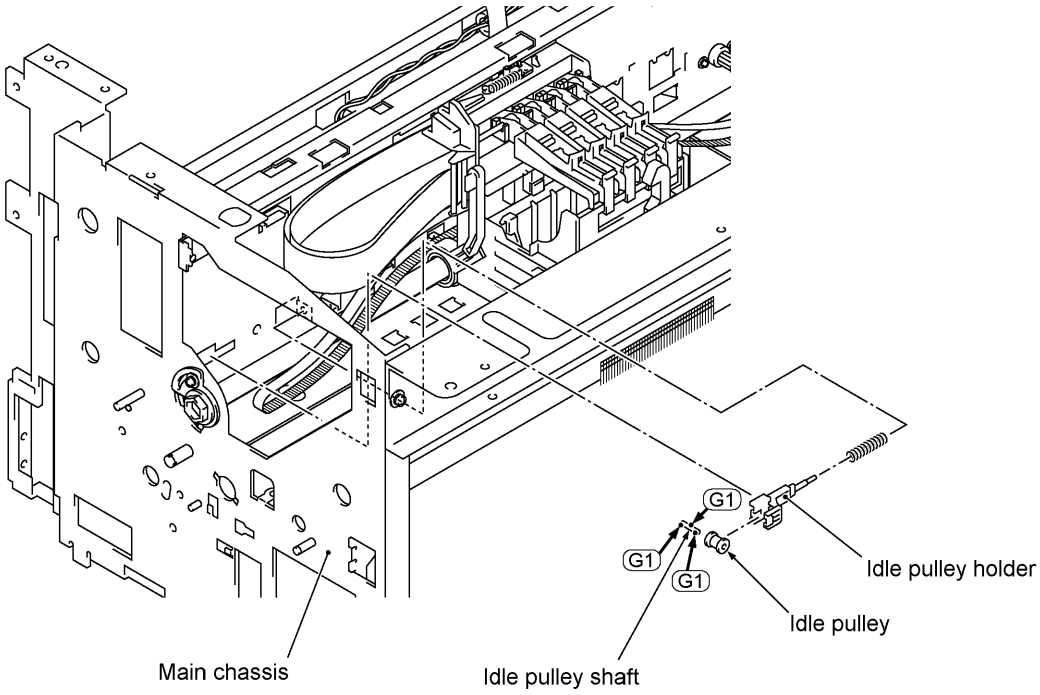

## [ 3 ] Main chassis



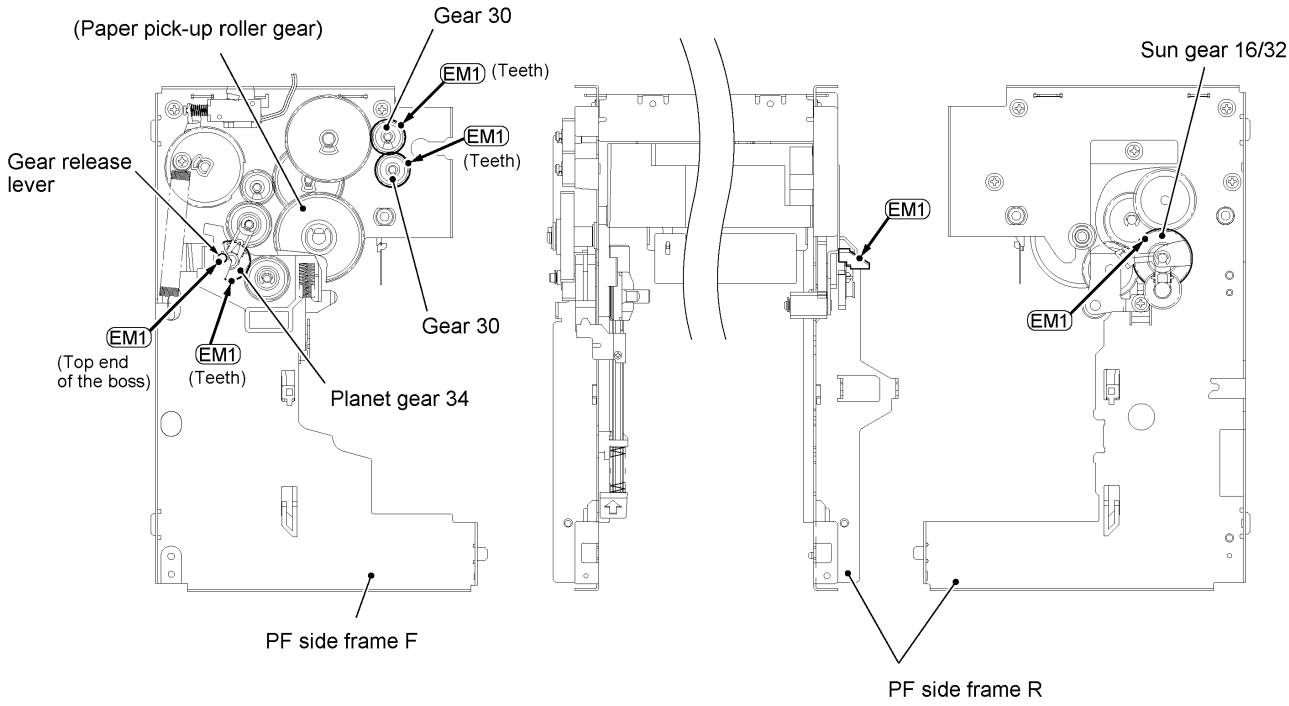
## [ 4 ] Purge unit




## [ 5 ] Idle pulley holder



## [ 6 ] Paper feed frame ASSY



# 3. ADJUSTMENT

The adjustment jobs should be done on a flat, plain surface.

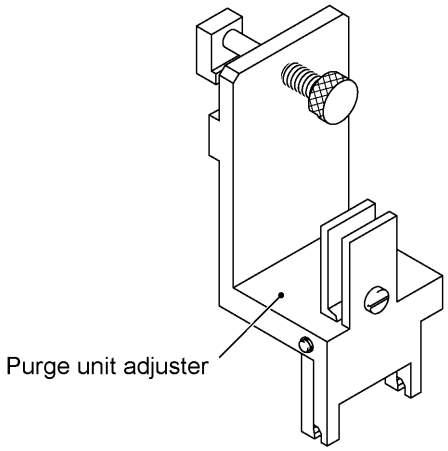
### 3.1 Purge Unit Front-to-rear Adjustment

If you have removed the purge unit, you need to adjust the position of the purge unit relative to the carriage rail by using the purge unit adjuster.

If you have removed also the carriage rail or carriage ASSY, it is recommended that you first adjust the head-platen gap (see Section 3.2) for accurate gap and then proceed to this purge unit adjustment.

Purge unit adjuster

The purge unit adjuster is shown below.

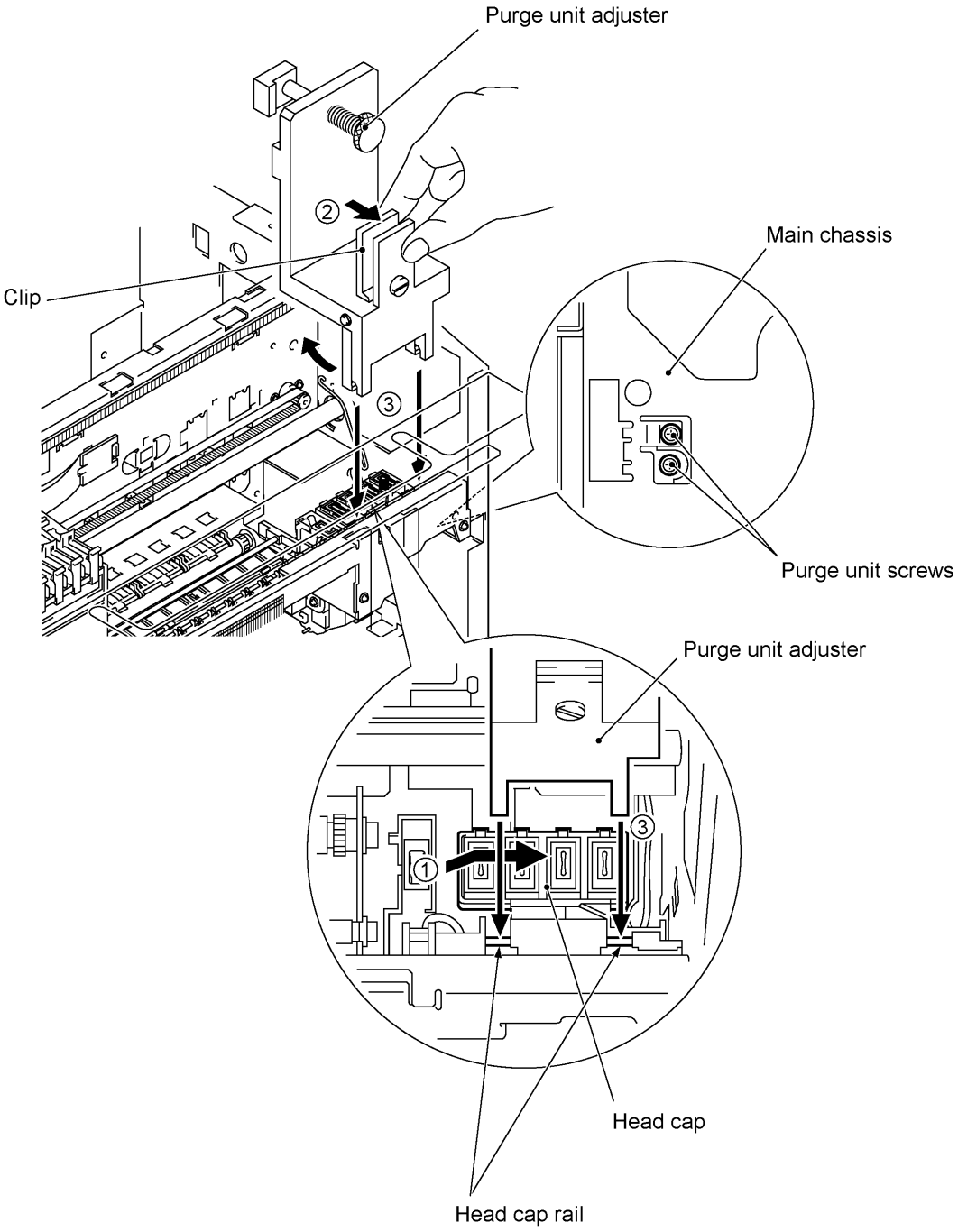


Adjustment procedure

(1) Move the carriage to the left end of the carriage rail.

(2) Put the removed purge unit back into place, and then temporarily tighten the two screws at the right side.

(3) Slightly move the head cap to the right with a flat screwdriver (in the direction of arrow •) so that the head cap rail can be seen as illustrated below, pinch the upper end of the clip (arrow ❟) to open its lower end, and make the clip catch the head cap rail (arrow ƒ).



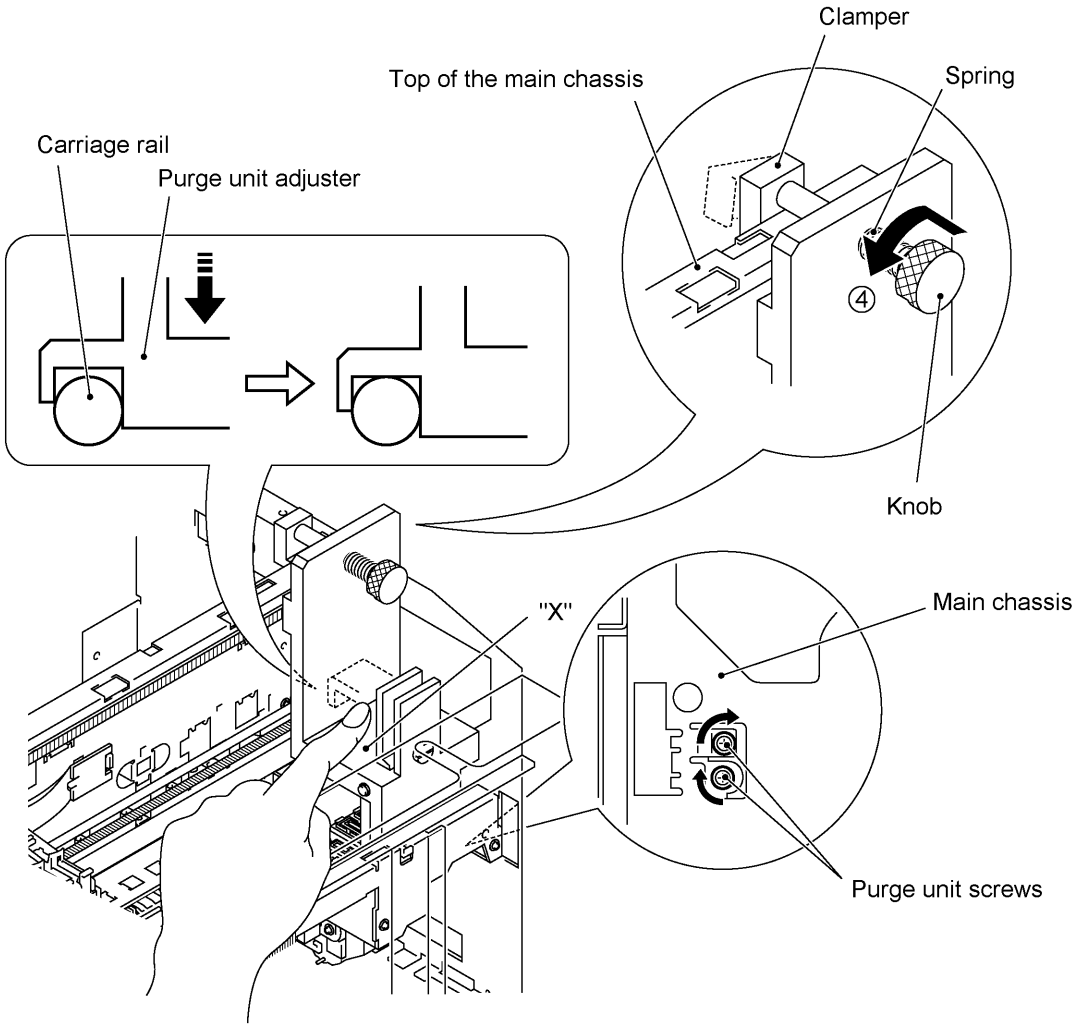
(4) Fit the purge unit adjuster over the carriage rail as shown below.

**NOTE:** Take care not to scratch or damage the carriage rail.

(5) While pressing the knob to the rear, turn it counterclockwise (in the direction of arrow „) in order to clamp the purge unit adjuster to the top of the main frame.

(6) While pushing down the purge unit adjuster at section "X," fully tighten the purge unit screws.

(7) Remove the purge unit adjuster.



### 3.2 Head-platen Gap Adjustment

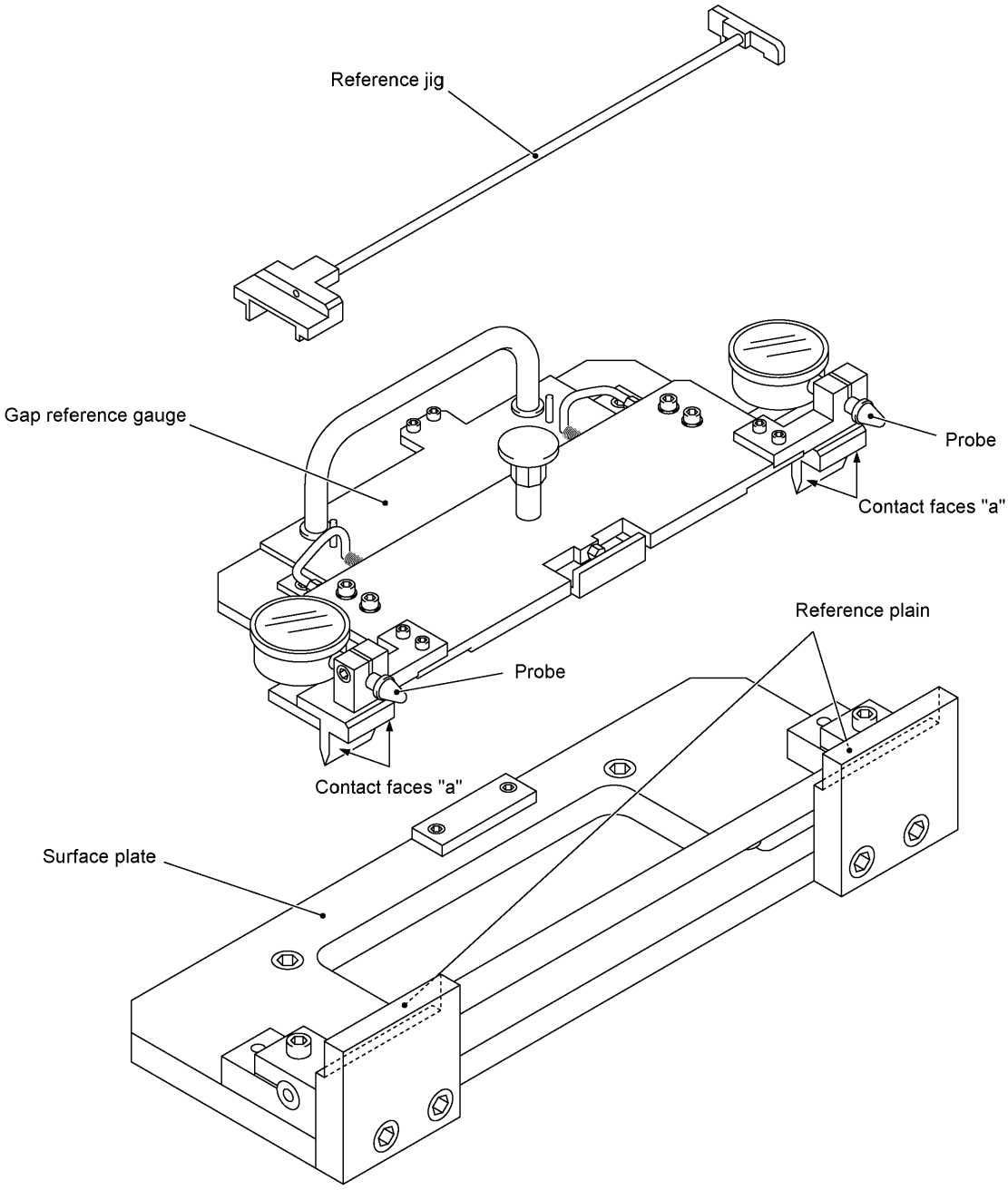
If you have removed the carriage rail or carriage ASSY, it is recommended that you adjust the gap between the print head and the platen by using the gap adjustment jig.

Gap adjustment jig

The gap adjustment jig consists of the reference jig, gap reference gauge and surface plate as illustrated below.

**NOTE:** Do not touch the reference plain or the ends of the probes.

**NOTE:** Take care not to stain or scratch contact faces "a" (that are to be fitted to the carriage rail) of the gap reference gauge.



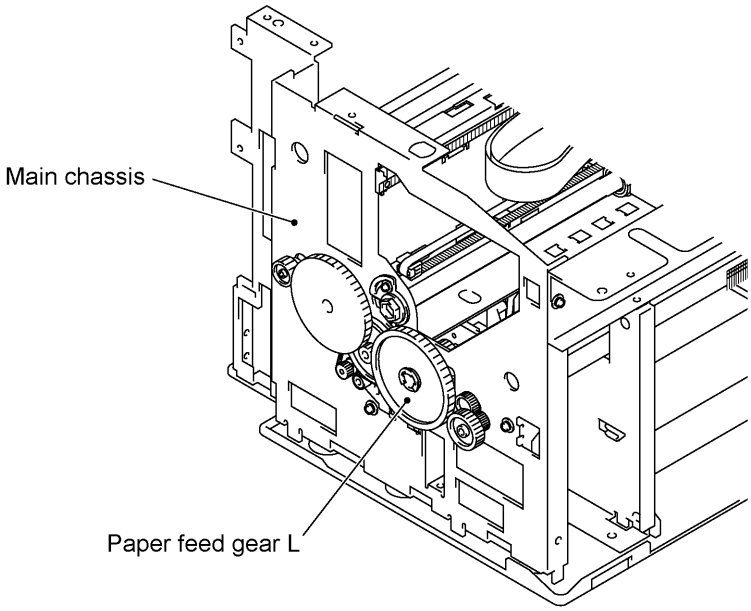
Adjustment procedure

(1) Place the facsimile equipment on a flat, firm surface.

(2) Secure the carriage rail and carriage ASSY to the main frame.

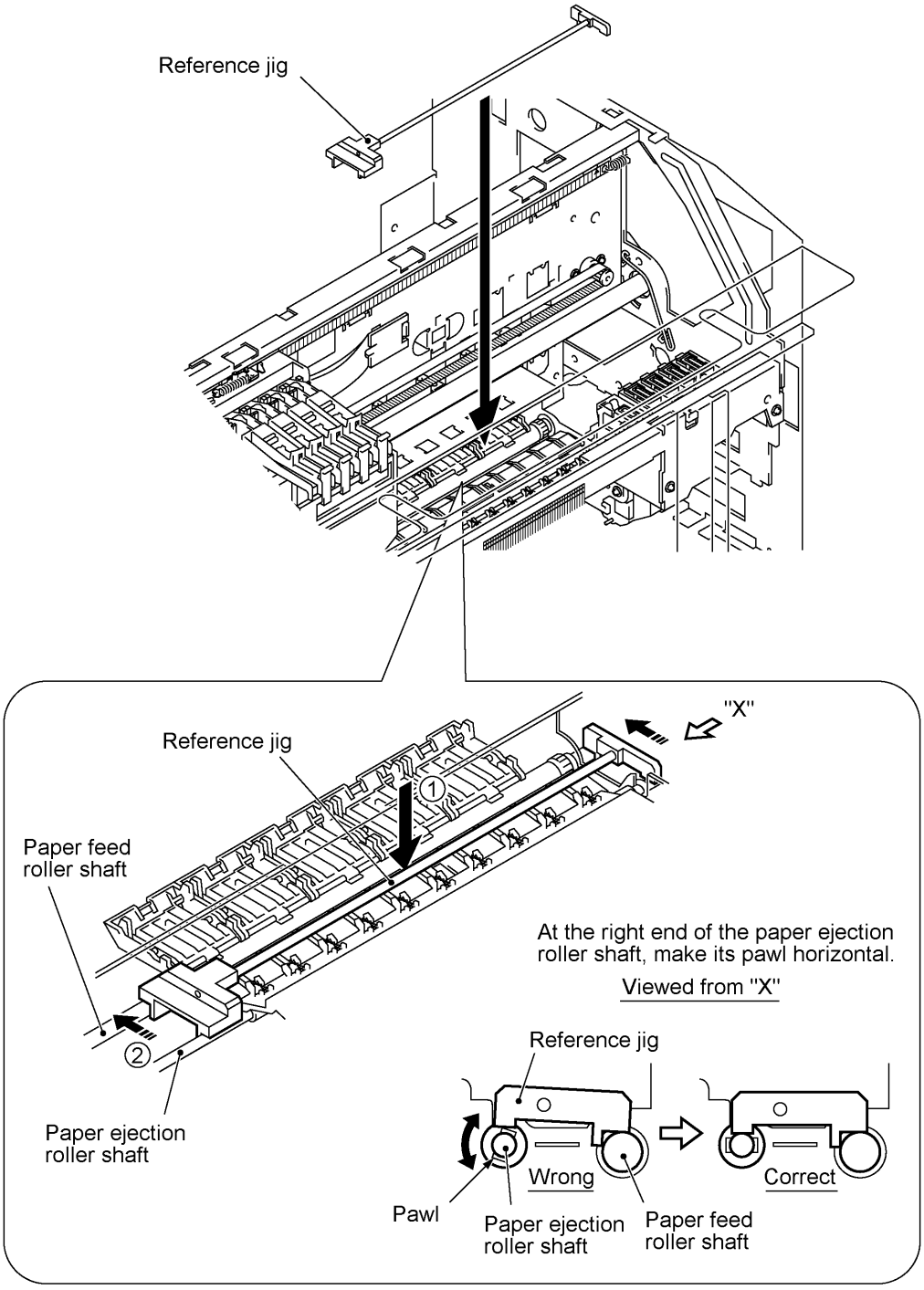
(3) Move the carriage to the left end of its travel.

**NOTE:** If the carriage is locked in the home position, rotate the paper feed gear L at the left side of the main chassis to retract the carriage lock.




(4) At the right end of the paper ejection roller shaft, check that the pawl is in a horizontal position as illustrated on the next page. If not horizontal, turn the paper ejection roller to make the pawl horizontal.

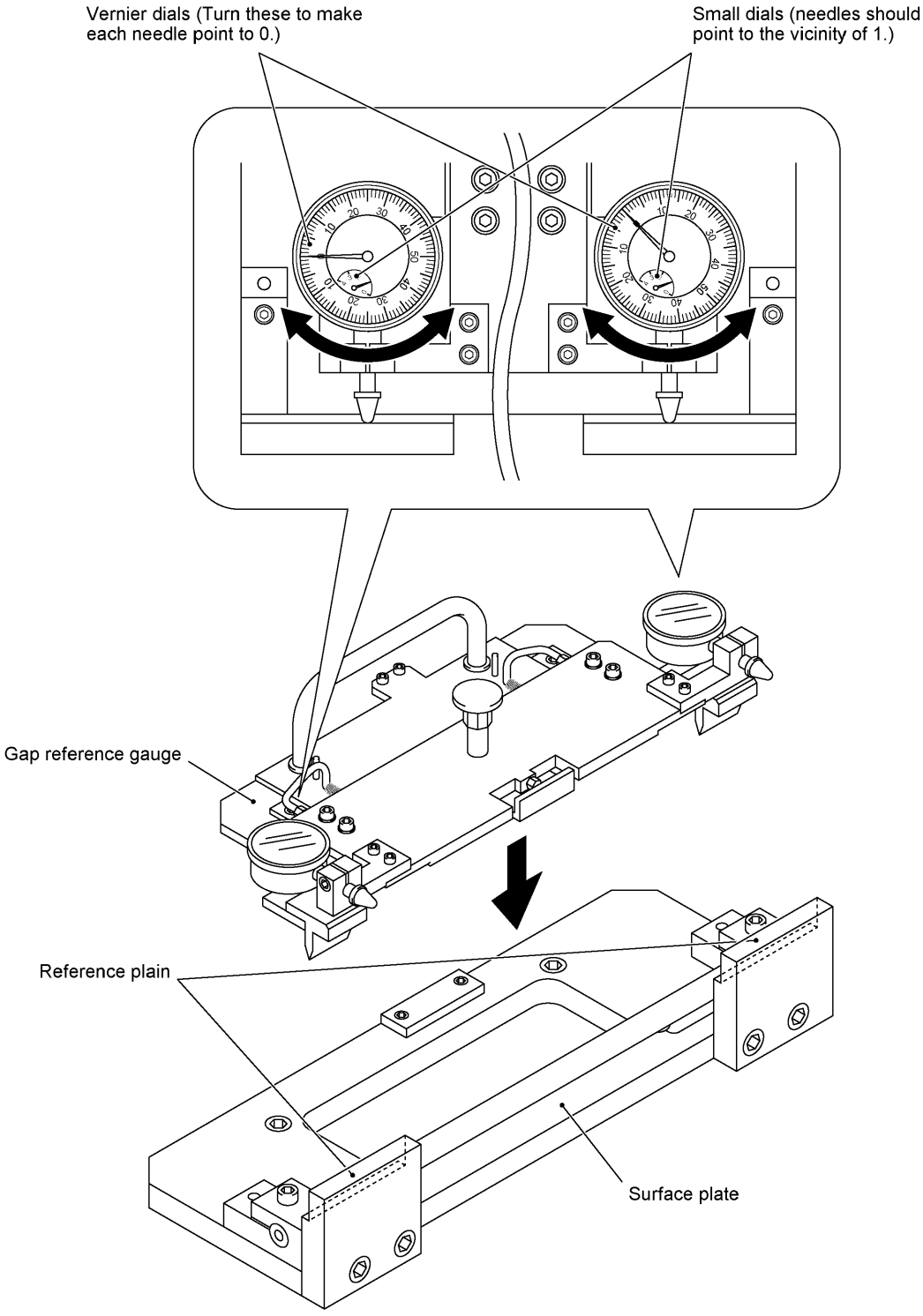
(5) Put the reference jig on the paper ejection roller shaft and paper feed roller shaft (in the direction of arrow • ). Then push it to the rear (arrow , ).


Reference jig
"X"
Reference jig
①
Paper feed roller shaft
②
Paper ejection roller shaft
At the right end of the paper ejection roller shaft, make its pawl horizontal.
Viewed from "X"
Reference jig
Wrong
Correct
Pawl
Paper ejection roller shaft
Paper feed roller shaft

(6) Put the gap reference gauge on the surface plate.

Check the small dials to see that each needle points to the vicinity of 1. If either of the needles deviates significantly from 1, turn the corresponding vernier dial. One turn of the vernier dial rotates the needle of the small dial by one graduation.

Press the gap reference gauge against the reference plain of the surface plate and then turn the two vernier dials to make each needle point to zero (0).

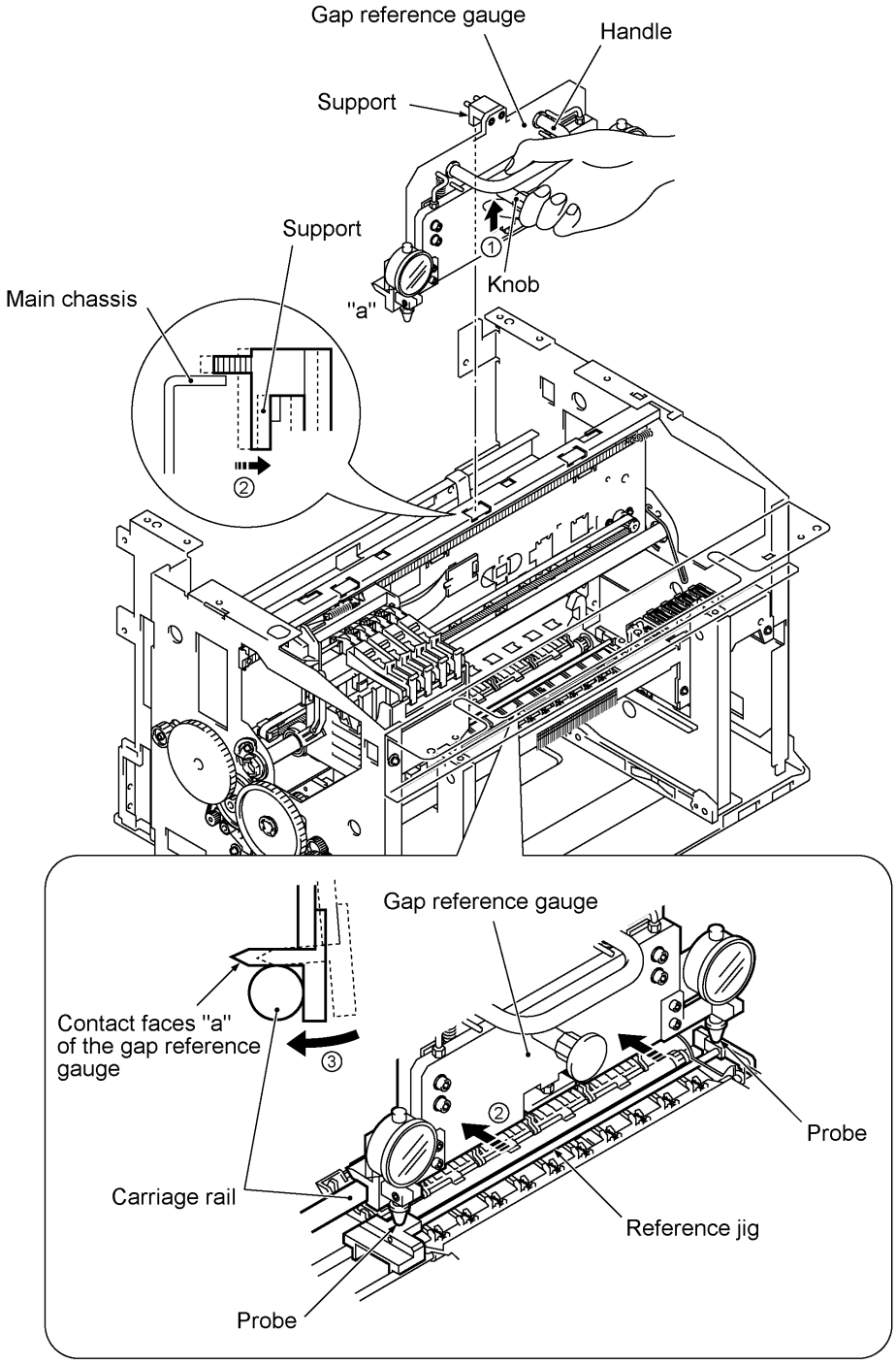

Vernier dials (Turn these to make each needle point to 0.)
Small dials (needles should point to the vicinity of 1.)
Gap reference gauge
Reference plain
Surface plate

(7) Gently take off the gap reference gauge from the surface plate and hold the handle as shown below.

(8) While pulling up the knob (in the direction of arrow •) to prevent the probes from striking against facsimile components, first slightly tilt the gap reference gauge to the rear, hook its support in the cutout provided in the main frame, bring the probes into contact with the reference jig preset in step (5) and then tilt it towards you (arrow ❟).

If the head-platen gap is correct, those probes will be in contact with the reference jig so that the needles of the small dials will point to the vicinity of 1 and those of the vernier dials will point to zero.

If the needles point to any other values, proceed to the following steps to adjust the gap.

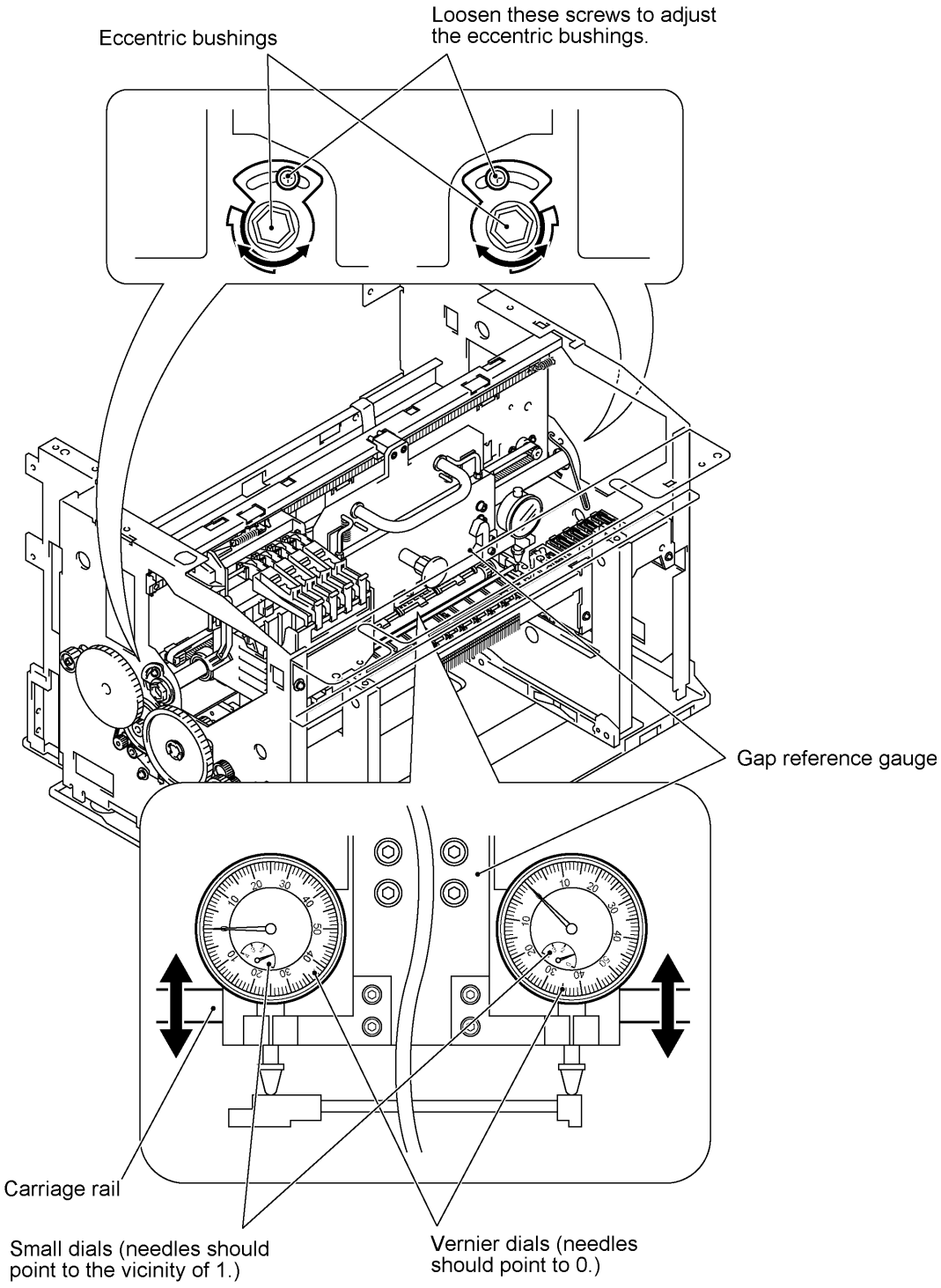


(9) Loosen the screws on the eccentric bushings R and L, and then turn those bushings so that the needles of the small dials point to the vicinity of 1 and those of the vernier dials point to zero.

(10) Tighten the screws on the eccentric bushings.

After tightening these screws, the needles of the vernier dials may be deflected from zero. Deflection within ±0.03 is negligible.

(11) Remove the gap reference gauge and reference jig.


Eccentric bushings
Loosen these screws to adjust the eccentric bushings.
Gap reference gauge
Carriage rail
Small dials (needles should point to the vicinity of 1.)
Vernier dials (needles should point to 0.)

# CHAPTER V.

## MAINTENANCE MODE

# CHAPTER V. MAINTENANCE MODE

## CONTENTS


1. ENTRY INTO THE MAINTENANCE MODE ..... V-1
2. LIST OF MAINTENANCE-MODE FUNCTIONS ..... V-2
3. DETAILED DESCRIPTION OF MAINTENANCE-MODE FUNCTIONS ..... V-4
   - 3.1 EEPROM Parameter Initialization ..... V-4
   - 3.2 Printout of Scanning Compensation Data ..... V-5
   - 3.3 ADF Performance Test ..... V-7
   - 3.4 Test Pattern 1 ..... V-8
   - 3.5 Firmware Switch Setting and Printout ..... V-9
   - 3.6 Operational Check of LCD ..... V-46
   - 3.7 Operational Check of Control Panel PCB ..... V-46
   - 3.8 Sensor Operational Check ..... V-48
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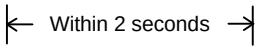
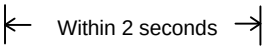
# 1. ENTRY INTO THE MAINTENANCE MODE

MFC9100C: To make the facsimile equipment enter the maintenance mode, press the **Function**, *****, **2**, **8**, **6**, and **4** keys in this order.




MFC760: To make the facsimile equipment enter the maintenance mode, press the **Menu**, *****, **2**, **8**, **6**, and **4** keys in this order.




The equipment beeps for approx. one second and displays " ▮▮ MAINTENANCE ▮▮▮ " on the LCD, indicating that it is placed in the initial stage of the maintenance mode, a mode in which the equipment is ready to accept entry from the keys.

To select one of the maintenance-mode functions listed in Section 2, enter the corresponding 2-digit function code with the numerical keys on the control panel. (The details of each maintenance-mode function are described in Section 3.)

**NOTES:**
- Pressing the **9** key twice in the initial stage of the maintenance mode makes the equipment exit from the maintenance mode, restoring it to the standby state.
- Pressing the **Stop** key after entering only one digit restores the equipment to the initial stage of the maintenance mode.
- If an invalid function code is entered, the equipment resumes the initial stage of the maintenance mode.

# 2. LIST OF MAINTENANCE-MODE FUNCTIONS

**Maintenance-mode Functions**

| Function Code | Function | Reference Subsection (Page) |
|---|---|---|
| 01 | EEPROM Parameter Initialization | 3.1 (V-4) |
| 02 | ———— | ———— |
| 03 | ———— | ———— |
| 04 | ———— | ———— |
| 05 | Printout of Scanning Compensation Data | 3.2 (V-5) |
| 06 | ———— | ———— |
| 07 | ———— | ———— |
| 08 | ADF* Performance Test | 3.3 (V-7) |
| 09 | Test Pattern 1 | 3.4 (V-8) |
| 10 | Firmware Switch Setting | 3.5 (V-9) |
| 11 | Printout of Firmware Switch Data | 3.5 (V-45) |
| 12 | Operational Check of LCD | 3.6 (V-46) |
| 13 | Operational Check of Control Panel PCB (Check of Keys and Buttons) | 3.7 (V-46) |
| | | |
| 32 | Sensor Operational Check | 3.8 (V-48) |
| | | |
| 55 | CCD Scanner Area Setting | 3.9 (V-49) |
| 57 | Setting the Sensing Reference Levels of Black Ink Empty Sensor | 3.10 (V-50) |
| | | |
| 65 | Alignment of Vertical Print Lines | 3.11 (V-52) |
| 69 | Initial Adjustment of PWM Value (Aging of the carriage) | 3.12 (V-54) |
| | | |
| 74 | EEPROM Customizing | 3.13 (V-54) |
| | | |
| 82 | Equipment Error Code Indication | 3.14 (V-55) |
| 87 | Output of Transmission Log to the Telephone Line | 3.15 (V-55) |
| | | |
| 91 | EEPROM Parameter Initialization (except the telephone number storage area) | 3.1 (V-4) |
| 99 | Exit from the Maintenance Mode | ---- (V-1) |

* ADF: Automatic document feeder

- - - - - - - - - - - - - - - - - - - - - - - - **IMPORTANT** - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Basically, the maintenance-mode functions listed on the previous page should be accessed by service personnel only. However, you may allow end users to access some of these under the guidance of service personnel (e.g., by telephone).

The user-accessible functions (codes 10, 11, 12, 82, 87 and 91) are shaded in the table given on the previous page. Function code 10 accesses the firmware switches WSW01 to WSW36, each of which has eight selectors. You should not allow end users to access all of those selectors, but you may allow them to access user-accessible selectors which are shaded in the firmware switch tables in Subsection 3.5.

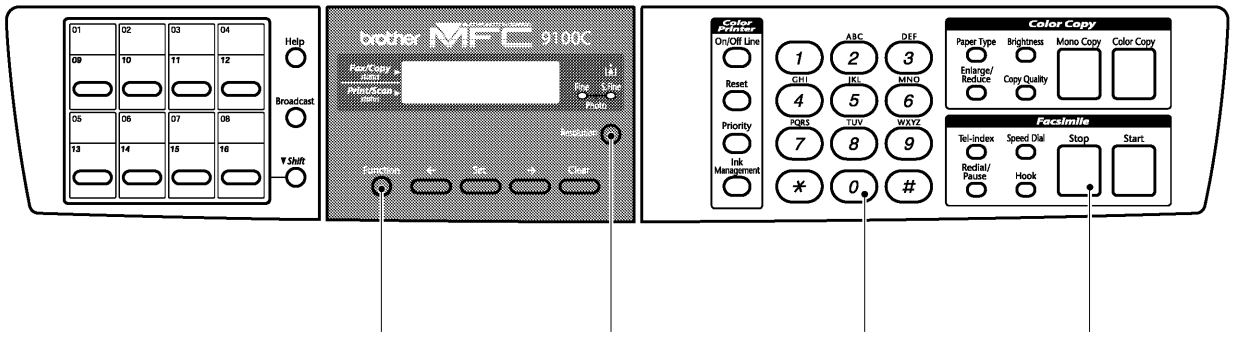
The service personnel should instruct end users to follow the procedure given below.

(1) MFC9100C: Press the **Function** and **Resolution** keys in this order.
MFC760: Press the **Menu** and **Resolution** keys in this order.
The LCD clears the current display.
**NOTE:** The **Resolution** key is inoperable during standby for redialing and timer.

(2) Press the **0** key.

(3) Enter the desired function code (10, 11, 12, 82, 87, or 91) with the numerical keys.
For function code 10, access the desired firmware switch according to the operating procedure described in Subsection 3.5.

(4) To make the equipment return to the standby state, press the **Stop** key.




**Function/Menu** key

**Resolution** key

**0** key

**Stop** key

# 3. DETAILED DESCRIPTION OF MAINTENANCE-MODE FUNCTIONS

### 3.1 EEPROM Parameter Initialization

**n Function**

The equipment initializes the parameters, user switches, and firmware switches registered in the EEPROM, to the initial values. Entering the function code 01 initializes almost all of the EEPROM areas, but entering 91 does not initialize some areas, as listed below.

<table>
<tr><th>Data item \ Function code</th><th>01</th><th>91</th></tr>
<tr><td>Maintenance-mode functions<br>User switches<br>Firmware switches<br>Remote activation code<br>Activity report</td><td rowspan="2">All of these will be initialized</td><td>These will be initialized</td></tr>
<tr><td>Station ID data<br>Outside line number<br>Telephone function registration<br>One-touch dialing<br>Speed dialing<br>Group dialing</td><td>These will <u>not</u> be initialized</td></tr>
<tr><td>EEPROM customizing code (4-digit)</td><td colspan="2">This will <u>not</u> be initialized.<br>(Note that the first digit of the 4-digit code will be initialized to "0." If the code is <u>1</u>001, for example, it will be initialized to <u>0</u>001.)</td></tr>
</table>

**NOTE:** If you replace the main PCB with one used for other facsimile equipment, carry out this procedure and then customize the EEPROM (maintenance-mode function code 74 in Section 3.13).

**n Operating Procedure**

(1) Press the **0** and **1** keys (or the **9** and **1** keys according to your need) in this order in the initial stage of the maintenance mode.

The "PARAMETER INIT" will appear on the LCD.

(2) Upon completion of parameter initialization, the equipment returns to the initial stage of the maintenance mode.

### 3.2 Printout of Scanning Compensation Data

**n Function**

The equipment prints out the white and black level data for scanning compensation.

**n Operating Procedure**

Do not start this function merely after powering on the equipment but start it after carrying out a sequence of scanning operation. Unless the equipment has carried out any scanning operation, this function cannot print out correct scanning compensation data. This is because at the start of scanning operation, the equipment initializes white and black level data and takes in the scanning compensation reference data.

(1) Press the **0** and **5** keys in this order in the initial stage of the maintenance mode.

The "WHITE LEVEL 1" will appear on the LCD.

(2) The equipment prints out the scanning compensation data list containing the following:

a) White level data for red image (310 bytes)
b) White level data for green image (310 bytes)
c) White level data for blue image (310 bytes)
d) Black level data (4 bytes for red, green, blue, and monochrome images, one byte/color)
e) Dark level offset data (4 bytes for red, green, blue, and monochrome images, one byte/color)
f) Gain control data (8 bytes for red, green, blue, and monochrome images, two bytes/color)
g) A/D converter reference level for center value (2 bytes for color and monochrome images, one byte/color)
h) A/D converter reference level for full range (2 bytes for color and monochrome images, one byte/color)

(3) Upon completion of recording of the compensation data list, the equipment returns to the initial stage of the maintenance mode.

**NOTE:** When the equipment prints monochrome images after monochrome scanning, only the green data is valid.

**NOTE:** If any data is abnormal, its code will be printed in inline style, as shown on the next page.

**NOTE:** Out of eight picture elements of white level data, one byte of the minimum value will be outputted.

```
7000 : 84 88 8A 8B 8F 8E 90 93  96 97 99 9A 9A 9F 9F 9F
7010 : A2 A5 A8 A7 AB AD AA AC  AF B2 B9 BC BA BD BF BC
7020 : BF BF C0 BE C1 C1 C2 C2  BE C2 BF BD BF C1 BF C1
7030 : BC BE BE BB BD BC B9 BB  BA BB B8 B9 B9 B9 B8 B7
7040 : BA B9 B5 B7 B6 B7 B5 B6  B3 B4 B6 B6 B3 B4 B5 B5
7050 : B1 B1 B4 B2 B5 B2 B6 B5  B4 B5 B6 B6 B2 B5 B3 B3
7060 : B3 B3 B1 B0 B3 B1 B0 B0  AE AC AE AA AA A7 A7 A7
7070 : A9 A9 A9 A9 AA AA AB A7  AE AB AC AA AA AD AB AA
7080 : A9 A8 AB AA AA A8 AA AB  AA AA A9 A5 9E 8F 7B 62
7090 : 1B 1A 18 19 18 18 15 14  18 19 16 14 14 17 18 16
70A0 : 16 17 1A 1B 1A 17 17 1E  1D 1D 1D 1C 1A 19 1E 1B
70B0 : 1B 19 16 13 16 1E 6B 82  9C AC AE AE AF AF B1 B1
70C0 : B4 B2 AF AF B1 B3 B5 B7  B6 B9 BB BA BB BA BE BE
70D0 : C1 C1 C0 C0 C1 C0 C1 C3  C2 C2 C7 C6 C7 C9 C7 C7
70E0 : C7 C8 CA CA CD CD CC CC  CD CE CF CB D0 CF CF D3
70F0 : D3 D4 D6 D9 DA D8 D9 DA  D8 D7 D4 DB DA DD DE E0
7100 : E2 DF DF E0 E1 E4 E6 E7  E6 E8 E8 E7 E9 E8 EB DD
7110 : E4 E4 E6 E5 E4 E5 E0 E3  E3 DC DA DD D5 D7 D8 D4
7120 : D0 CF CE CD CC C9 C7 C8  C3 BE BD BE B8 B5 B5 B2
7130 : AE AB A7 A5 A4 9F
```

```
7000 : 93 95 99 9C A0 9F A0 A2  A7 AA AB AD AE AD B3 B6
7010 : B5 B7 B9 BC BE C2 C0 C3  C3 C8 C8 C7 C8 CD CE CE
7020 : D3 D6 D3 D3 D8 DA DA D9  DB D9 DE DE E1 DF E1 D9
7030 : DE DE DA D6 DB DD D9 DA  D8 DB D9 D9 D9 D4 D9 CF
7040 : D5 D2 CF D1 D3 CF D0 CC  C5 CB CA C9 C7 C2 C7 C6
7050 : C6 C6 C2 C7 C4 C3 C2 C2  C2 C0 BE BE BD BD B9 BD
7060 : BC BB BB BC BA BB B9 B8  B8 B6 B9 BA B8 B9 B9 B8
7070 : B6 B9 B5 B6 B8 BB BC BA  BA B9 BC BC BB BA BA B8
7080 : BA BA BB BD BA B7 BA B8  B6 B8 B7 B4 AD A2 84 6A
7090 : 18 15 12 10 12 11 11 12  15 13 11 13 11 14 13 15
70A0 : 12 12 16 15 14 14 14 19  19 1B 1C 19 17 17 1B 1A
70B0 : 1B 13 14 10 12 27 70 8E  A7 B4 BA B8 B6 B7 B8 B7
70C0 : B6 BA BA BB BB BD BA BC  BD BD C0 C0 BD BF C0 C3
70D0 : BD BB BB BC C3 C2 C2 C7  C7 C6 C8 C8 C7 CA CD CB
70E0 : CD CC CA CB CF D0 D3 D4  D2 D4 D7 D3 D4 D5 DB DC
70F0 : DB DD D9 E1 E1 E5 E5 DF  E3 E4 E4 E2 E8 EA ED EF
7100 : EB EE E9 EF F0 F1 EF F0  F0 ED EC EB E8 E6 E9 E8
7110 : E6 E1 DD E5 DB D8 D7 D4  D1 D0 CF D1 CE CC C8 CD
7120 : C5 C7 C2 BF BC BB B7 B7  B5 B1 B0 AC AF AD AA A8
7130 : A4 A2 A1 9D 97 96
```

```
7000 : 99 9E 9F A4 A5 A7 AA AB  A9 AE B0 B3 B4 B4 B8 B8
7010 : BB BA BD C2 C2 C3 C3 C5  C3 C6 C9 C8 C9 CD CE D1
7020 : D0 D2 D2 D5 D6 D7 D7 D5  D5 D2 D6 D7 D7 D8 D8 D6
7030 : D4 D4 D2 D2 D2 D3 D2 D1  D0 CE D0 CE CB CC CD CB
7040 : C8 C9 C8 C6 C7 C4 C3 C0  C3 C1 C1 BF BD C0 BC BC
7050 : BC BB BF BD BC B9 BA BB  BB B8 B6 BA B6 B9 B7 B6
7060 : B9 B5 B4 B4 B6 B5 B3 B2  AE B0 AF B1 AF AE AF B1
7070 : B0 AF AC AE AE B0 B0 B0  AF AF B0 AE B0 AE AE AD
7080 : AE AF AF AB AD AC AA AD  AC AB A9 A9 A4 99 84 69
7090 : 19 17 16 14 15 16 15 12  16 14 15 16 15 14 18 17
70A0 : 14 13 16 1A 16 16 17 19  1C 1B 19 1A 19 18 1C 17
70B0 : 1B 18 15 13 14 21 71 88  9F A8 AF B1 AF B1 B1 B1
70C0 : B0 B0 B2 B3 B4 B6 B5 B6  B8 B8 B8 BC BB BB BC BD
70D0 : BD BC BF BE C1 BF BE C0  C0 C1 C3 C3 C6 C6 C7 C7
70E0 : C8 C9 CA CD CD CC CF CD  CF D1 D1 D3 D2 D4 D3 D7
70F0 : D9 D6 D7 DB DD DB DD DE  DF E3 E0 E1 E6 E5 E6 EA
7100 : E5 E9 EB E8 EA EB E9 EC  EA EA E9 E9 E8 EC EA E8
7110 : E6 E4 E6 E6 E5 E1 E0 DA  DB D7 DA D5 D7 D5 D4 D2
7120 : CE CD C9 C8 C9 C8 C6 C4  C3 BD BB BB B9 B7 B6 B2
7130 : B0 AC AA A7 A5 A0
```

```
7000 : 05 00 03 00
```

```
7000 : A0 99 9A A7
```

```
7000 : 78 00 6D 00 67 00 7E 00
```

```
7000 : 63 64
```

```
7000 : 3D 3E
```

**Scanning Compensation Data List**

### 3.3 ADF Performance Test

#### n Function

The equipment counts the documents fed by the automatic document feeder (ADF) and displays the count on the LCD for checking the ADF performance.

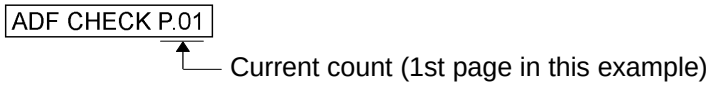
#### n Operating Procedure

(1) Set documents on the document tray. (Allowable up to the capacity of the document tray.)

The "DOC. READY" will appear on the LCD.

(2) Press the **0** and **8** keys in this order.

While counting the documents, the equipment feeds them in and out, displaying the current count on the LCD as shown below.




(3) After showing the final count, the equipment beeps for one second. To return the equipment to the initial stage of the maintenance mode, press the **Stop** key.

### 3.4 Test Pattern 1

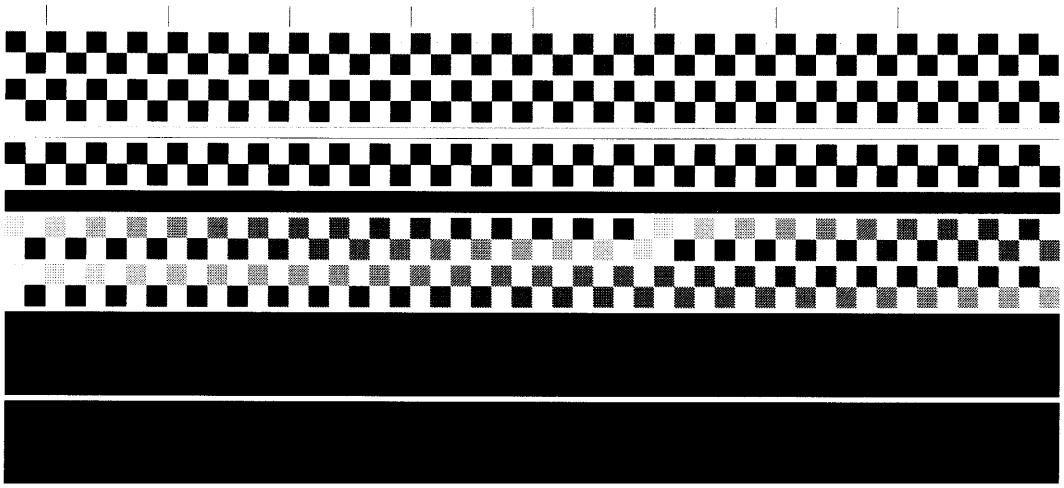
**n Function**

This function, much like the copying function, prints out test pattern 1 to allow the service personnel to check for record data missing or print quality.

**n Operating Procedure**

Press the **0** and **9** keys in this order in the initial stage of the maintenance mode.

The figure below shows test pattern 1.



**Test Pattern 1**

## 3.5 Firmware Switch Setting and Printout

### [ A ] Firmware switch setting

#### n Function

The facsimile equipment incorporates the following firmware switch functions (WSW01 through WSW36) which may be activated with the procedures using the control panel keys and buttons. The firmware switches have been set at the factory in conformity to the communications standards and codes of each country. Do not disturb them unless necessary. Some firmware switches may not be applicable in some versions. The firmware switch data list indicates "Not used." for those inapplicable switches.

**Firmware Switches (WSW01 through WSW36)**

| WSW No. | Function | Reference Page |
|---|---|---|
| WSW01 | Dial pulse setting | V-11 |
| WSW02 | Tone signal setting | V-12 |
| WSW03 | PABX mode setting | V-13 |
| WSW04 | TRANSFER facility setting | V-15 |
| WSW05 | 1st dial tone and busy tone detection | V-16 |
| WSW06 | **Pause** key setting and 2nd dial tone detection | V-17 |
| WSW07 | Dial tone setting 1 | V-19 |
| WSW08 | Dial tone setting 2 | V-20 |
| WSW09 | Protocol definition 1 | V-21 |
| WSW10 | Protocol definition 2 | V-22 |
| WSW11 | Busy tone setting | V-23 |
| WSW12 | Signal detection condition setting | V-24 |
| WSW13 | Modem setting | V-25 |
| WSW14 | AUTO ANS facility setting | V-26 |
| WSW15 | REDIAL facility setting | V-27 |
| WSW16 | Function setting 1 | V-28 |
| WSW17 | Function setting 2 | V-29 |
| WSW18 | Function setting 3 | V-30 |
| WSW19 | Transmission speed setting | V-31 |
| WSW20 | Overseas communications mode setting | V-32 |
| WSW21 | TAD setting 1 | V-33 |
| WSW22 | ECM and copy resolution setting | V-33 |
| WSW23 | Communications setting | V-34 |
| WSW24 | TAD setting 2 | V-35 |
| WSW25 | TAD setting 3 | V-35 |
| WSW26 | Function setting 4 | V-36 |
| WSW27 | Function setting 5 | V-37 |
| WSW28 | Function setting 6 | V-38 |
| WSW29 | Function setting 7 | V-39 |
| WSW30 | Function setting 8 | V-39 |
| WSW31 | Function setting 9 | V-40 |
| WSW32 | Function setting 10 | V-41 |
| WSW33 | Function setting 11 | V-42 |
| WSW34 | Function setting 12 | V-43 |
| WSW35 | Function setting 13 | V-43 |
| WSW36 | Function setting 14 | V-44 |

## n Operating Procedure

(1) Press the **1** and **0** keys in this order in the initial stage of the maintenance mode.

The equipment displays the "WSW00" on the LCD and becomes ready to accept a firmware switch number.

(2) Enter the desired number from the firmware switch numbers (01 through 36).

The following appears on the LCD:

WSWXX = 0 0 0 0 0 0 0 0

(3) Use the ◀ and ▶ keys to move the cursor to the selector position to be modified.

(4) Enter the desired number using the **0** and **1** keys.

(5) Press the **Set** key. This operation saves the newly entered selector values onto the EEPROM and readies the equipment for accepting a firmware switch number.

(6) Repeat steps (2) through (5) until the modification for the desired firmware switches is completed.

(7) Press the **Set** or **Stop** key to return the equipment to the initial stage of the maintenance mode.

**NOTES:**
- To cancel this operation and return the equipment to the initial stage of the maintenance mode during the above procedure, press the **Stop** key.
- If there is a pause of more than one minute after a single-digit number is entered for double-digit firmware switch numbers, the equipment will automatically return to the initial stage of the maintenance mode.

## n Note

The user-accessible selectors of the firmware switches are shaded in the tables given on the following pages.

## n Detailed Description for the Firmware Switches

**WSW01 (Dial pulse setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>2 | Dial pulse generation mode | No. 1 2<br>0 0 : N<br>0 1 : N+1<br>1 0 : 10-N<br>1 1 : N |
| 3<br>4 | Break time length in pulse dialing | No. 3 4<br>0 0 : 60 ms<br>0 1 : 67 ms<br>1 0 : 40 ms (for 16 PPS)<br>1 1 : 64 ms (at 106-ms intervals) |
| 5<br>6 | Inter-digit pause | No. 5 6<br>0 0 : 800 ms<br>0 1 : 850 ms<br>1 0 : 950 ms<br>1 1 : 600 ms |
| 7 | Switching between pulse (DP) and tone (PB) dialing, by the function switch | 0: Yes 1: No |
| 8 | Default dialing mode, pulse (DP) or tone (PB) dialing | 0: PB 1: DP |

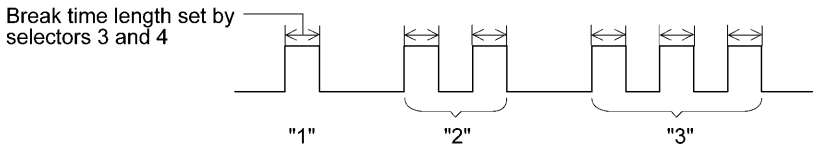
- **Selectors 1 and 2: Dial pulse generation mode**

  These selectors set the number of pulses to be generated in pulse dialing.

  N: Dialing "N" generates "N" pulses. (Dialing "0" generates 10 pulses.)
  N + 1: Dialing "N" generates "N + 1" pulses.
  10 - N: Dialing "N" generates "10 - N" pulses.

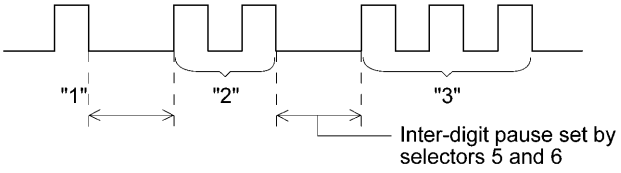
- **Selectors 3 and 4: Break time length in pulse dialing**

  These selectors set the break time length in pulse dialing.
  (Example: If "1," "2," and "3" are dialed when N is set by selectors 1 and 2.)




- **Selectors 5 and 6: Inter-digit pause**

  These selectors set the inter-digit pause in pulse dialing.
  (Example: If "1," "2," and "3" are dialed when N is set by selectors 1 and 2.)



- **Selector 7: Switching between pulse (DP) and tone (PB) dialing, by the function switch**

  This selector determines whether or not the dialing mode may be switched between the pulse (DP) and tone (PB) dialing by using the function switch.

- **Selector 8: Default dialing mode, pulse (DP) or tone (PB) dialing**

  This selector sets the default dialing mode (pulse dialing or tone dialing) which may be changed by the function switch. If the user switches it with the function switch when selector 7 is set to "0," the setting specified by this selector will also be switched automatically.

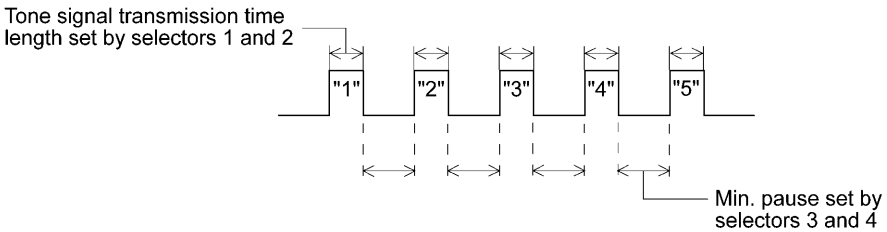
**WSW02 (Tone signal setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>2 | Tone signal transmission time length | No. 1 2<br>0 0 : 70 ms<br>0 1 : 80 ms<br>1 0 : 90 ms<br>1 1 : 100 ms |
| 3<br>4 | Min. pause in tone dialing | No. 3 4<br>0 0 : 70 ms<br>0 1 : 80 ms<br>1 0 : 90 ms<br>1 1 : 140 ms |
| 5<br>\|<br>8 | Attenuator for pseudo ring backtone to the line (selectable in the range of 0-15 dB) | 0: 0 dB 1: 8 dB<br>0: 0 dB 1: 4 dB<br>0: 0 dB 1: 2 dB<br>0: 0 dB 1: 1 dB |

- **Selectors 1 through 4: Tone signal transmission time length and Min. pause in tone dialing**

  These selectors set the tone signal transmission time length and minimum pause in tone dialing.

  (Example: If "1," "2," "3," "4," and "5" are dialed.)




- **Selectors 5 through 8: Attenuator for pseudo ring backtone to the line**

  These selectors are used to adjust the sound level of beep generated as a ring backtone in the F/T mode or as a signal during remote control operation or at the start of ICM recording.

  Setting two or more selectors to “1” produces addition of attenuation assigned to each selector.

**WSW03 (PABX* mode setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | CNG detection when sharing a modular wall socket with a telephone | 0: A 1: B |
| 2 \| 4 | Min. detection time length of PABX* dial tone, required for starting dialing | No. 2 3 4<br>0 0 0 : 50 ms<br>0 0 1 : 210 ms<br>0 1 0 : 500 ms<br>0 1 1 : 800 ms<br>1 0 0 : 900 ms<br>1 0 1 : 1.5 sec.<br>1 1 0 : 2.0 sec.<br>1 1 1 : 2.5 sec. |
| 5 | CNG detection when sharing a modular wall socket with a telephone | 0: A 1: B |
| 6<br>7 | Dial tone detection in PABX* | No. 6 7<br>0 0 : No detection (3.5 sec. WAIT)<br>0 1 : No detection (5 sec. WAIT)<br>1 0 : No detection (7 sec. WAIT)<br>1 1 : Detection (Frequency only) |
| 8 | "R" key function | 0: 1st dial tone detection add 1: No 1st dial tone detection |

* PABX: Private automatic branch exchange

**NOTE:** Selectors 2 through 4 and 6 through 8 are not applicable where no PABX is installed.

- **Selectors 1 and 5: CNG detection when sharing a modular wall socket with a telephone**

  These selectors determine whether or not the equipment detects a CNG signal when a line is connected to a telephone sharing a modular wall socket with the equipment. Upon detection of CNG signals by the number of cycles specified by these selectors, the equipment interprets CNG as an effective signal and then starts FAX reception.

| Selector No. 1 | Selector No. 5 | Cycle |
|---|---|---|
| 0 (A) | 0 (A) | 0.5 cycle |
| 0 (A) | 1 (B) | 1.0 cycle |
| 1 (B) | 0 (A) | 1.5 cycles |
| 1 (B) | 1 (B) | 2.0 cycles |

- **Selectors 2 through 4: Min. detection time length of PABX dial tone, required for starting dialing**

  Upon detection of the PABX dial tone for the time length set by these selectors, the equipment starts dialing.

  These selectors are effective only when both selectors 6 and 7 are set to "1" (Detection).

- **Selectors 6 and 7: Dial tone detection in PABX**

  These selectors activate or deactivate the dial tone detection function which detects a dial tone when a line is connected to the PABX.

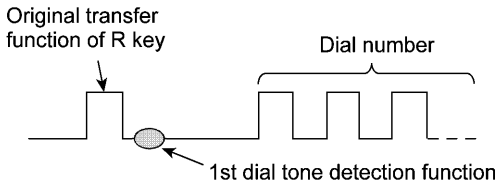
  Setting both of these selectors to "1" activates the dial tone detection function so that the equipment starts dialing upon detection of a dial tone when a line is connected.

  Other setting combinations deactivate the dial tone detection function so that the equipment starts dialing after the specified WAIT (3.5, 5.0, or 7.0 sec.) without detection of a dial tone when a line is connected.

- **Selector 8: "R" key function**

  This selector determines whether or not the 1st dial tone detection function (specified by selectors 1 through 3 of WSW05) is added to the R key.

  If this selector is set to "0," pressing the R key automatically activates the 1st dial tone detection function when the PABX and the automatic calling are selected by using the function switch. If you press the R key and a dial number in succession, the equipment will automatically carry out the 1st dial tone detection function following the original transfer function as shown below.



**WSW04 (TRANSFER facility setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | Earth function in transfer facility | 0: Provided 1: Not provided |
| 2 \| 4 | Not used. | |
| 5<br>6 | Earth time length for earth function | No. 5 6<br>0 0 : 200 ms<br>0 1 : 300 ms<br>1 0 : 500 ms<br>1 1 : 700 ms |
| 7<br>8 | Break time length for flash function | No. 7 8<br>0 0 : 80 ms<br>0 1 : 110 ms<br>1 0 : 250 ms<br>1 1 : 500 ms |

**NOTE:** Selectors 1 and 5 through 8 are not applicable in those countries where no transfer facility is supported.

- **Selector 1: Earth function in transfer facility**

  This selector determines whether or not the earth function is added to the transfer setting menu to be accessed by the function switch.

- **Selectors 5 and 6: Earth time length for earth function**

  These selectors set the short-circuiting time length of the telephone line (La or Lb) to ground.

  This setting is effective only when the earth function is selected for the R key by using the function switch.

- **Selectors 7 and 8: Break time length for flash function**

  These selectors set the break time length.

  This setting is effective only when the flash function is selected for the R key by using the function switch.

**WSW05 (1st dial tone and busy tone detection)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>\|<br>3 | 1st dial tone detection | No. 1 2 3<br>0 0 0 : 3.5 sec. WAIT<br>0 0 1 : 7.0 sec. WAIT<br>0 1 0 : 10.5 sec. WAIT<br>0 1 1 : 14.0 sec. WAIT<br>1 0 0 : 17.5 sec. WAIT<br>1 0 1 : 21.0 sec. WAIT<br>1 1 0 : 24.5 sec. WAIT<br>1 1 1 : Detection (Without WAIT) |
| 4 | Max. pause time allowable for remote ID code detection | 0 : 2 seconds 1: 1 second |
| 5<br><br>6 | Busy tone detection in automatic sending mode | No. 5 6<br>0 0 : No detection<br>0 1 : Detection only after dialing<br>1 0 : No detection<br>1 1 : Detection before and after dialing |
| 7 | Busy tone detection in automatic receiving mode | 0 : Yes 1: No |
| 8 | Not used. | |

**NOTE:** Selectors 5 through 7 are not applicable in those countries where no busy tone detection is supported.

- **Selectors 1 through 3: 1st dial tone detection**

  These selectors activate or deactivate the 1st dial tone detection function which detects the 1st dial tone issued from the PSTN when a line is connected to the PSTN.

  Setting all of these selectors to "1" activates the dial tone detection function so that the equipment starts dialing upon detection of a dial tone when a line is connected. (However, in those countries which support no dial tone detection function, e.g., in the U.S.A., setting these selectors to "1" makes the equipment start dialing after a WAIT of 3.5 seconds.) For the detecting conditions of the 1st dial tone, refer to WSW07 and WSW08.

  Other setting combinations deactivate the dial tone detection function so that the equipment starts dialing after the specified WAIT (3.5, 7.0, 10.5, 14.0, 17.5, 21.0, or 24.5 seconds) without detection of a dial tone when a line is connected to the PSTN.

- **Selector 4: Max. pause time allowable for remote ID code detection**

  This selector sets the maximum pause time allowable for detecting the second digit of a remote ID code after detection of the first digit in remote reception.

  If selector 4 is set to "0" (2 seconds), for instance, only a remote ID code whose second digit is detected within 2 seconds after detection of the first digit will become effective so as to activate the remote function.

- **Selectors 5 and 6: Busy tone detection in automatic sending mode**

  These selectors determine whether or not the equipment automatically disconnects a line upon detection of a busy tone in automatic sending mode.

  Setting selector 6 to "0" ignores a busy tone so that the equipment does not disconnect the line.

  Setting selectors 5 and 6 to "0" and "1," respectively, makes the equipment detect a busy tone only after dialing and disconnect the line.

  Setting both of selectors 5 and 6 to "1" makes the equipment detect a busy tone before and after dialing and then disconnect the line.

- **Selector 7: Busy tone detection in automatic receiving mode**

  This selector determines whether or not the equipment automatically disconnects a line upon detection of a busy tone in automatic receiving mode.

**WSW06 (Pause key setting and 2nd dial tone detection)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>\|<br>3 | **Pause** key setting and 2nd dial tone detection | No. 1 2 3<br>0 0 0 : No pause<br>0 0 1 : 3.5 sec. WAIT<br>0 1 0 : 7 sec. WAIT<br>0 1 1 : 10.5 sec. WAIT<br>1 0 0 : 14 sec. WAIT<br>1 1 0 : 2nd dial tone detection only in pulse dialing (DP) system<br>1 0 1 : } 2nd dial tone detection<br>1 1 1 : } both in DP and push-button (PB) dialing system |
| 4<br>\|<br>6 | Detection of international tone | No. 4 5 6<br>0 0 0 : 50 ms<br>0 0 1 : 210 ms<br>0 1 0 : 500 ms<br>0 1 1 : 800 ms<br>1 0 0 : 900 ms<br>1 0 1 : 1.5 sec.<br>1 1 0 : 2.0 sec.<br>1 1 1 : 2.5 sec. |
| 7 | No. of 2nd dial tone detection times | 0: Once 1: Twice |
| 8 | 2nd dial tone interrupt detecting time | 0: 30 ms 1: 50 ms |

**NOTE:** Selectors 4 through 8 are not applicable in those countries where no dial tone detection is supported, e.g., U.S.A.

- **Selectors 1 through 3: Pause key setting and 2nd dial tone detection**

| Selectors 1 | 2 | 3 | |
|---|---|---|---|
| 0 | 0 | 0 | No WAIT is inserted even if the **Pause** key is pressed. |
| 0<br>0<br>0<br>1 | 0<br>1<br>1<br>0 | 1<br>0<br>1<br>0 | If you press the **Pause** key during dialing, the facsimile equipment will insert WAIT as defined in the above table.<br>If the **Pause** key is pressed repeatedly, the equipment inserts the specified WAIT multiplied by the number of depressions. It applies also in hook-up dialing. |
| 1<br>1<br>1 | 0<br>1<br>1 | 1<br>0<br>1 | When these selectors are set to "1, 0, 1":<br>If you press the **Pause** key during dialing, the equipment will wait for the 2nd dial tone to be sent via the communications line.<br>When these selectors are set to "1, 1, 0" or "1, 1, 1":<br>If you press the **Pause** key during dialing, the equipment will first wait for the 2nd dial tone to be sent via the communications line. After that, the equipment will insert a WAIT of 3.5 seconds.<br>If no 2nd dial tone is received within the specified time length (set by WSW08), the equipment will disconnect the line if in automatic dialing, or it will start transmitting the dial signal if given after depression of the **Pause** key in hook-up dialing.<br>(In those countries where no dial tone detection function is supported, setting these selectors to "1, 0, 1," "1, 1, 0," or "1, 1, 1" inserts a WAIT of 3.5 seconds.) |

- **Selectors 4 through 6: Detection of international tone**

  Upon detection of the 2nd dial tone for the time length specified by these selectors, the equipment starts dialing.

  This setting is effective only when the 2nd dial tone detection function is activated by selectors 1 through 3 (Setting 101, 110, or 111).

  This function does not apply in those countries where no dial tone detection function is supported.

- **Selector 7: No. of 2nd dial tone detection times**

  This selector sets the number of dial tone detection times required for starting dialing.

- **Selector 8: 2nd dial tone interrupt detecting time**

  This selector sets the allowable time length of an interrupt which should not be interpreted as an interrupt in the 2nd tone dialing.

**WSW07 (Dial tone setting 1)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>2 | Frequency band range | No. 1 2<br>0 0 : Narrows by 10 Hz<br>0 1 : Initial value<br>1 X : Widens by 10 Hz |
| 3 | Line current detection | 0: No 1: Yes |
| 4<br>\|<br>6 | 2nd dial tone detection level<br>(Z = 600 Ω) | No. 4 5 6<br>0 0 0 : -21 dBm<br>0 0 1 : -24 dBm<br>0 1 0 : -27 dBm<br>0 1 1 : -30 dBm<br>1 0 0 : -33 dBm<br>1 0 1 : -36 dBm<br>1 1 0 : -39 dBm<br>1 1 1 : -42 dBm |
| 7 | 1st dial tone interrupt detecting time | 0: 30 ms 1: 50 ms |
| 8 | Not used. | |

**NOTE:** WSW07 is not applicable in those countries where no dial tone or line current detection is supported, e.g., U.S.A.

- **Selectors 1 and 2: Frequency band range**

  These selectors set the frequency band for the 1st dial tone and the busy tone (before dialing) to be detected.

  This setting is effective only when selectors 1 through 3 of WSW05 are set to "1,1,1."

- **Selector 3: Line current detection**

  This selector determines whether or not the equipment should detect a line current before starting dialing.

- **Selectors 4 through 6: 2nd dial tone detection level**

  These selectors set the detection level of the 2nd dial tone.

- **Selector 7: 1st dial tone interrupt detecting time**

  This selector sets the allowable time length of an interrupt which should not be interpreted as an interrupt in the 1st dial tone dialing.

**WSW08 (Dial tone setting 2)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 3 | 1st dial tone detection time length | No. 1 2 3<br>0 0 0 : 50 ms<br>0 0 1 : 210 ms<br>0 1 0 : 500 ms<br>0 1 1 : 800 ms<br>1 0 0 : 900 ms<br>1 0 1 : 1.5 sec.<br>1 1 0 : 2.0 sec.<br>1 1 1 : 2.5 sec. |
| 4<br>5 | Time-out length for 1st and 2nd dial tone detection | No. 4 5<br>0 0 : 10 sec.<br>0 1 : 20 sec.<br>1 0 : 15 sec.<br>1 1 : 30 sec. |
| 6 \| 8 | Detection level of 1st dial tone and busy tone before dialing | No. 6 7 8<br>0 0 0 : -21 dBm<br>0 0 1 : -24 dBm<br>0 1 0 : -27 dBm<br>0 1 1 : -30 dBm<br>1 0 0 : -33 dBm<br>1 0 1 : -36 dBm<br>1 1 0 : -39 dBm<br>1 1 1 : -42 dBm |

**NOTE:** The WSW08 is not applicable in those countries where no dial tone detection is supported, e.g., U.S.A.

- **Selectors 1 through 3: 1st dial tone detection time length**

  Upon detection of the 1st dial tone for the time length set by these selectors, the equipment starts dialing.

  This setting is effective only when selectors 1 through 3 of WSW05 are set to "1,1,1."

- **Selectors 4 and 5: Time-out length for 1st and 2nd dial tone detection**

  These selectors set the time-out length for the 1st and 2nd dial tone detection so that the equipment waits dial tone input for the specified time length and disconnects itself from the line when no dial tone is inputted.

**WSW09 (Protocol definition 1)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | Frame length selection | 0: 256 octets 1: 64 octets |
| 2 | Use of non-standard commands | 0: Allowed 1: Prohibited |
| 3<br>4 | No. of retries | No. 3 4<br>0 0 : 4 times<br>0 1 : 3 times<br>1 0 : 2 times<br>1 1 : 1 time |
| 5 | T5 timer | 0: 300 sec. 1: 60 sec. |
| 6 | T1 timer | 0: 35 sec. 1: 40 sec. |
| 7<br>8 | Elapsed time for time-out control for no response from the called station in automatic sending mode | No. 7 8<br>0 0 : 55 sec. (USA and Canadian versions)<br>60 sec. (Other versions)<br>0 1 : 140 sec. (French versions)<br>70 sec. (Other versions)<br>1 0 : 90 sec.<br>1 1 : 35 sec. |

**NOTE:** Selectors 1 through 6 are not applicable in those models which do not support ECM.

- **Selector 1: Frame length selection**

  Usually a single frame consists of 256 octets (1 octet = 8 bits). For communications lines with higher bit error rate, however, set selector 1 to "1" so that the facsimile equipment can divide a message into 64-octet frames.

  Remarks: The error correction mode (ECM) is a facsimile transmission manner in which the equipment divides a message into frames for transmission so that if any data error occurs on the transmission line, the equipment retransmits only those frames containing the error data.

- **Selector 2: Use of non-standard commands**

  If this selector is set to "0," the equipment may use non-standard commands (the machine's native-mode commands, e.g., NSF, NSC, and NSS) for communications. If it is set to "1," the equipment will use standard commands only.

- **Selectors 3 and 4: No. of retries**

  These selectors set the number of retries in each specified modem transmission speed.

- **Selector 5: T5 timer**

  This selector sets the time length for the T5 timer.

- **Selector 6: T1 timer**

  This selector sets the time length for the T1 timer.

- **Selectors 7 and 8: Elapsed time for time-out control**

  If the equipment receives no response (no G3 command) from the called terminal in automatic sending during the time set by these selectors, it disconnects the line.

**WSW10 (Protocol definition 2)**

| Selector No. | Function | | Setting and Specifications |
|---|---|---|---|
| 1 | Switching of DPS, following the CML ON/OFF | | 0: No 1: Yes |
| 2 | Time length from transmission of the last dial digit to CML ON | | 0: 100 ms 1: 50 ms |
| 3 | Time length from CML ON to CNG transmission | | 0: 2 sec. 1: 4 sec. |
| 4 | Time length from CML ON to CED transmission (except for facsimile-to-telephone switching) | | 0: 0.5 sec. 1: 2 sec. |
| 5<br>6 | No. of training retries | | No. 5 6<br>0 0 : 1 time<br>0 1 : 2 times<br>1 0 : 3 times<br>1 1 : 4 times |
| 7 | Encoding system (Compression) | MR | 0: Allowed 1: Not allowed |
| 8 | | MMR | 0: Allowed 1: Not allowed |

- **Selector 1: Switching of DPS, following the CML ON/OFF**

  Setting this selector to "1" automatically switches DPS following the CML ON/OFF operation.

- **Selector 2: Time length from transmission of the last dial digit to CML ON**

  This selector sets the time length from when the equipment transmits the last dial digit until the CML relay comes on.

- **Selector 3: Time length from CML ON to CNG transmission**

  This selector sets the time length until the equipment transmits a CNG after it turns on the CML relay.

- **Selector 4: Time length from CML ON to CED transmission**

  This selector sets the time length until the equipment transmits a CED after it turns on the CML relay. This setting does not apply to switching between facsimile and telephone.

- **Selectors 5 and 6: No. of training retries**

  These selectors set the number of training retries to be repeated before automatic fallback.

- **Selectors 7 and 8: Encoding system (Compression)**

  This selector determines whether or not use of the MR/MMR coding system will be allowed.

**WSW11 (Busy tone setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>2 | Frequency band range | No. 1 2<br>0 0 : Narrows by 10 Hz<br>0 1 : Initial value<br>1 x : Widens by 10 Hz |
| 3 | Not used. | |
| 4 | ON/OFF time length ranges<br>(More than one setting allowed) | 1: 400-600/400-600 ms |
| 5 | | 1: 175-440/175-440 ms |
| 6 | | 1: 700-800/700-800 ms |
| 7 | | 1: 110-410/320-550 ms |
| 8 | | 1: 100-660/100-660 ms |

**NOTE:** WSW11 is not applicable in those countries where no busy tone detection is supported.

**NOTE:** The setting of WSW11 is effective only when selectors 5 and 6 of WSW05 are set to "0, 1" or "1, 1" (Busy tone detection).

- **Selectors 1 and 2: Frequency band range**

  These selectors set the frequency band for busy tone to be detected.

- **Selectors 4 through 8: ON/OFF time length ranges**

  These selectors set the ON and OFF time length ranges for busy tone to be detected. If more than one selector is set to "1," the ranges become wider. For example, if selectors 4 and 5 are set to "1," the ON and OFF time length ranges are from 175 to 600 ms.

**WSW12 (Signal detection condition setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>2 | Min. OFF time length of calling signal (Ci) | No. 1 2<br>0 0 : 300 ms (in the U.S.A. and Canadian versions)<br>1500 ms (in other versions)<br>0 1 : 500 ms<br>1 0 : 700 ms<br>1 1 : 900 ms |
| 3<br>4 | Max. OFF time length of calling signal (Ci) | No. 3 4<br>0 0 : 6 sec.<br>0 1 : 7 sec.<br>1 0 : 9 sec.<br>1 1 : 11 sec. |
| 5<br>6 | Detecting time setting | No. 5 6<br>0 0 : 800 ms (1000 ms*)<br>0 1 : 200 ms<br>1 0 : 250 ms<br>1 1 : 150 ms |
| 7 | Delay | 0: Yes 1: No |
| 8 | Not used. | |

*1000 ms in Chinese versions.

- **Selectors 1 through 4: Min. and max. OFF time length of calling signal (Ci)**

  If the equipment detects the OFF state of calling signal (Ci) for a time length which is greater than the value set by selectors 1 and 2 and less than the value set by selectors 3 and 4, it interprets the Ci signal as OFF.

- **Selectors 5 and 6: Detecting time setting**

  These selectors set the time length required to make the equipment acknowledge itself to be called. That is, if the equipment continuously detects calling signals with the frequency set by selectors 1 through 4 of WSW14 during the time length set by these selectors 5 and 6, it acknowledges the call.

- **Selector 7: Delay**

  Setting this selector to "0" allows the equipment to insert a 900 ms WAIT after acknowledgment of the call until the equipment turns on the CML relay to start receiving operation.

**WSW13 (Modem setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>2 | Cable equalizer | No. 1 2<br>0 0 : 0 km<br>0 1 : 0 km<br>1 0 : 7.2 km<br>1 1 : 7.2 km |
| 3<br>4 | Reception level | No. 3 4<br>0 0 : -43 dBm<br>0 1 : -47 dBm<br>1 0 : -49 dBm<br>1 1 : -51 dBm |
| 5<br>\|<br>8 | Modem attenuator | 0: 0 dB 1: 8 dB<br>0: 0 dB 1: 4 dB<br>0: 0 dB 1: 2 dB<br>0: 0 dB 1: 1 dB |

The modem should be adjusted according to the user's line conditions.

- **Selectors 1 and 2: Cable equalizer**

  These selectors are used to improve the pass-band characteristics of analogue signals on a line. (Attenuation in the high-band frequency is greater than in the low-band frequency.)

  Set these selectors according to the distance from the telephone switchboard to the facsimile equipment.

- **Selectors 3 and 4: Reception level**

  These selectors set the optimum receive signal level.

- **Selectors 5 through 8: Modem attenuator**

  These selectors are used to adjust the transmitting level of the modem when the reception level at the remote station is improper due to line loss. This function applies for G3 protocol signals.

  Setting two or more selectors to "1" produces addition of attenuation assigned to each selector.

  This setting will be limited if selector 8 of WSW23 is set to "0."

**WSW14 (AUTO ANS facility setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>2 | Frequency band selection (Lower limit) | No. 1 2<br>0 0 : 13 Hz<br>0 1 : 15 Hz<br>1 0 : 23 Hz<br>1 1 : 20 Hz |
| 3<br>4 | Frequency band selection (Upper limit) | No. 3 4<br>0 0 : 30 Hz<br>0 1 : 55 Hz<br>1 X : 70 Hz |
| 5<br>\|<br>8 | No. of rings in AUTO ANS mode | No. 5 6 7 8<br>0 0 0 0 : Fixed to once<br>0 0 0 1 : Fixed to 2 times<br>0 0 1 0 : Fixed to 3 times<br>0 0 1 1 : Fixed to 4 times<br>0 1 0 0 : 1 to 2 times<br>0 1 0 1 : 1 to 3 times<br>0 1 1 0 : 1 to 4 times<br>0 1 1 1 : 1 to 5 times<br>1 0 0 0 : 2 to 3 times<br>1 0 0 1 : 2 to 4 times<br>1 0 1 0 : 2 to 5 times<br>1 0 1 1 : 2 to 6 times<br>1 1 0 0 : 1 to 10 times<br>1 1 0 1 : 2 to 10 times<br>1 1 1 0 : 3 to 5 times<br>1 1 1 1 : 4 to 10 times |

- **Selectors 1 through 4: Frequency band selection**

  These selectors are used to select the frequency band of calling signals for activating the AUTO ANS facility.

  In the French versions, if the user sets the PBX to OFF from the control panel, the setting made by selectors 1 and 2 will take no effect and the frequency's lower limit will be fixed to 32 Hz. (Even if the setting made by these selectors does not apply, it will be printed on the configuration list.)

- **Selectors 5 through 8: No. of rings in AUTO ANS mode**

  These selectors set the number of rings to initiate the AUTO ANS facility.

**WSW15 (REDIAL facility setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>2 | Selection of redial interval | No. 1 2<br>0 0 : 5 minutes<br>0 1 : 1 minute<br>1 0 : 2 minutes<br>1 1 : 3 minutes |
| 3<br>\|<br>6 | No. of redialings | No. 3 4 5 6<br>0 0 0 0 : 16 times<br>0 0 0 1 : 1 times<br>0 0 1 0 : 2 times<br>0 0 1 1 : 3 times<br>\| \|<br>1 1 1 1 : 15 times |
| 7<br>8 | Not used. | |

- **Selectors 1 through 6: Selection of redial interval and No. of redialings**

  The equipment redials by the number of times set by selectors 3 through 6 at intervals set by selectors 1 and 2.

**WSW16 (Function setting 1)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | Not used. | |
| 2 | CCITT superfine recommendation | 0: OFF 1: ON |
| 3 \| 6 | Not used. | |
| 7 | Max. document length limitation | 0: 400 cm 1: 90 cm |
| 8 | **Stop** key pressed during reception | 0: Not functional 1: Functional |

- **Selector 2: CCITT superfine recommendation**

  If this selector is set to "1," the equipment communicates in CCITT recommended superfine mode (15.4 lines/mm). If it is set to "0," it communicates in native superfine mode.

- **Selector 7: Max. document length limitation**

  This selector is used to select the maximum length of a document to be sent.

- **Selector 8: Stop key pressed during reception**

  If this selector is set to "1," pressing the **Stop** key can stop the current receiving operation. The received data will be lost.

**WSW17 (Function setting 2)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>2 | Off-hook alarm | No. 1 2<br>0 0 : No alarm<br>0 1 : Always valid<br>1 X : Valid except when 'call reservation' is selected. |
| 3 | Power failure report output | 0: ON 1: OFF |
| 4 | Calendar clock/prompt alternate display | 0: No 1: Yes |
| 5 | Calendar clock type | 0: U.S.A. type 1: European type |
| 6 | Not used. | |
| 7 | Non-ring reception | 0: OFF 1: ON |
| 8 | Not used. | |

- **Selectors 1 and 2: Off-hook alarm**

  These selectors activate or deactivate the alarm function which sounds an alarm when the communication is completed with the handset being off the hook.

- **Selector 3: Power failure report output**

  This selector determines whether or not the equipment outputs a power failure report when the power comes back on.

- **Selector 4: Calendar clock/prompt alternate display**

  If this selector is set to "1," the calendar clock and the prompt "INSERT DOCUMENT" appear alternately on the LCD while the equipment is on standby; if it is set to "0," only the calendar clock appears.

- **Selector 5: Calendar clock type**

  If this selector is set to "0" (USA), the MM/DD/YY hh:mm format applies; if it is set to "1" (Europe), the DD/MM/YY hh:mm format applies: DD is the day, MM is the month, YY is the last two digits of the year, hh is the hour, and mm is the minute.

- **Selector 7: Non-ring reception**

  Setting this selector to "1" makes the equipment receive calls without ringer sound if the ring delay is set to 0.

**WSW18 (Function setting 3)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | Not used. | |
| 2<br>3 | Detection enabled time for CNG and no tone | No. 2 3<br>0 0 : 40 sec.<br>0 1 : 0 sec. (No detection)<br>1 0 : 5 sec.<br>1 1 : 80 sec. |
| 4<br>5 | Not used. | |
| 6 | Registration of station ID | 0: Permitted 1: Prohibited |
| 7<br>8 | Tone sound monitoring | No. 7 8<br>0 X : No monitoring<br>1 0 : Up to phase B at the calling station only<br>1 1 : All transmission phases both at the calling and called stations |

- **Selectors 2 and 3: Detection enabled time for CNG and no tone**

  After the line is connected via the external telephone or by picking up the handset of the facsimile equipment, the equipment can detect a CNG signal or no tone for the time length specified by these selectors. The setting specified by these selectors becomes effective only when selector 8 of WSW20 is set to "1."

- **Selector 6: Registration of station ID**

  Setting this selector to "0" permits the registration of station ID for Austrian and Czech versions.

- **Selectors 7 and 8: Tone sound monitoring**

  These selectors set monitoring specifications of the tone sound inputted from the line.

**WSW19 (Transmission speed setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 3 | First transmission speed choice for fallback | No. 1 2 3 / No. 4 5 6<br>0 0 0 : 2,400 bps<br>0 0 1 : 4,800 bps<br>0 1 0 : 7,200 bps<br>0 1 1 : 9,600 bps<br>1 0 0 : 12,000 bps<br>1 0 1 : 14,400 bps<br>1 1 0 : 14,400 bps<br>1 1 1 : 14,400 bps |
| 4 \| 6 | Last transmission speed choice for fallback | |
| 7 | Not used. | |
| 8 | V. 17 mode | 0: Permitted 1: Prohibited |

- **Selectors 1 through 6: First and last choices of transmission speed for fallback**

  These selectors are used to set the MODEM speed range. With the first transmission speed choice specified by selectors 1 through 3, the equipment attempts to synchronize the data transmission via the MODEM. If the synchronization fails, the equipment automatically steps down to the next lowest speed and attempts to synchronize the data transmission again. The equipment repeats this sequence while stepping down the transmission speed to the last choice specified by selectors 4 through 6.

  If the MODEM always falls back to a low transmission speed (e.g., 4,800 bps), set the first transmission speed choice to the lower one (e.g., modify it from 12,000 bps to 7,200 bps) in order to deactivate the high-speed MODEM function and reduce the training time for shorter transmission time.

  Generally, to save the transmission time, set the last transmission speed choice to a higher one.

**WSW20 (Overseas communications mode setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | EP* tone prefix | 0: OFF 1: ON |
| 2 | Overseas communications mode (Reception) | 0: 2100 Hz 1: 1100 Hz |
| 3 | Overseas communications mode (Transmission) | 0: OFF 1: Ignores DIS once. |
| 4<br>5 | Min. time length from reception of CFR to start of transmission of video signals | No. 4 5<br>0 0 : 100 ms<br>0 1 : 200 ms<br>1 0 : 300 ms<br>1 1 : 400 ms |
| 6<br>7 | Chattering elimination for CNG detection | No. 6 7<br>0 0 : A (During CNG ON and OFF)<br>0 1 : B (During CNG OFF only)<br>1 X : C (No elimination) |
| 8 | CNG detection on/off | 0: OFF 1: ON |

* EP: Echo protection

- **Selector 1: EP tone prefix**

  Setting this selector to "1" makes the equipment transmit a 1700 Hz echo protection (EP) tone immediately preceding training in V.29 modulation system to prevent omission of training signals.

  Prefixing an EP tone is effective when the equipment fails to transmit at the V.29 modem speed and always has to fall back to 4800 bps transmission.

- **Selectors 2 and 3: Overseas communications mode**

  These selectors should be used if the facsimile equipment malfunctions in overseas communications. According to the communications error state, select the signal specifications.

  Setting selector 2 to "1" allows the equipment to use 1100 Hz CED signal instead of 2100 Hz in receiving operation. This prevents malfunctions resulting from echoes, since the 1100 Hz signal does not disable the echo suppressor (ES) while the 2100 Hz signal does.

  Setting selector 3 to "1" allows the equipment to ignore a DIS signal sent from the called station once in sending operation. This operation suppresses echoes since the first DIS signal immediately follows a 2100 Hz CED (which disables the ES) so that it is likely to be affected by echoes in the disabled ES state. However, such a disabled ES state will be removed soon so that the second and the following DIS signals are not susceptible to data distortion due to echoes. Note that some models when called may cause error by receiving a self-outputted DIS.

- **Selectors 8: CNG detection on/off**

  If this selector is set to "1," the equipment detects a CNG signal according to the condition preset by selectors 2 and 3 of WSW18 after a line is connected. If it is set to "0," the equipment detects a CNG signal as long as the line is connected.

**WSW21 (TAD setting 1)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 7 | Not used. | |
| 8 | Erasure of message stored in the memory after the message transfer | 0: Yes 1: No |

- **Selector 8: Erasure of message stored in the memory after the message transfer**

  Setting this selector to "0" will erase the message recorded in the memory after the document retrieval feature transfers the message.

**WSW22 (ECM and copy resolution setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | ECM* in sending | 0: ON 1: OFF |
| 2 | ECM* in receiving | 0: ON 1: OFF |
| 3 | Not used. | |
| 4 | Copy resolution | 0: Fine 1: Superfine |
| 5 \| 8 | Acceptable TCF bit error rate (%) (Only at 4800 bps) | 0: 0% 1: 8%<br>0: 0% 1: 4%<br>0: 0% 1: 2%<br>0: 0% 1: 1% |

* ECM: Error correction mode

**NOTE:** Selectors 5 through 8 are applicable to the Chinese, Taiwanese and Asian versions only.

- **Selector 4: Copy resolution**

  This selector determines whether resolution for multi-copy should be Fine or Superfine.

- **Selectors 5 through 8: Acceptable TCF bit error rate (%)**

  Setting two or more selectors to "1" produces addition of percent assigned to each selector. If you set selectors 7 and 8 to "1," the acceptable TCF bit error rate will be 3%.

**WSW23 (Communications setting)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | Starting point of training check (TCF) | 0: From the head of a series of zeros<br>1: From any arbitrary point |
| 2<br>3 | Allowable training error rate | No. 2 3<br>0 0 : 0%<br>0 1 : 0.5%<br>1 0 : 1%<br>1 1 : 2% |
| 4<br>5 | Decoding error rate for transmission of RTN | No. 4 5<br>0 0 : 16%<br>0 1 : 14%<br>1 0 : 10%<br>1 1 : 8% |
| 6 | Issue of RTN at the occurrence of a pagination error | 0: Yes 1: No |
| 7 | Not used. | |
| 8 | Limitation of attenuation level | 0: Yes 1: No |

**NOTE:** Selector 8 is not applicable to the French versions.

- **Selector 1: Starting point of training check (TCF)**

  At the training phase of receiving operation, the called station detects for 1.0 second a training check (TCF) command, a series of zeros which is sent from the calling station for 1.5 seconds to verify training and give the first indication of the acceptability of the line.

  This selector sets the starting point from which the called station should start counting those zeros. If this selector is set to "0," the called station starts counting zeros 100 ms after the head of a series of zeros is detected.

  If it is set to "1," the called station starts counting zeros upon detection of 10-ms successive zeros 50 ms after the head of a series of zeros is detected. In this case, if the detection of 10-ms successive zeros is too late, the data counting period will become less than 1.0 second, making the called station judge the line condition unacceptable.

- **Selectors 2 and 3: Allowable training error rate**

  The called station checks a series of zeros gathered in training (as described in Selector 1) according to the allowable training error rate set by these selectors. If the called station judges the line condition to be accepted, it responds with CFR; if not, it responds with FTT.

- **Selectors 4 and 5: Decoding error rate for transmission of RTN**

  The facsimile equipment checks the actual decoding errors and then transmits an RTN according to the decoding error rate (Number of lines containing an error per page ÷ Total number of lines per page) set by these selectors.

- **Selector 6: Issue of RTN at the occurrence of a pagination error**

  If this selector is set to "0," the facsimile equipment transmits an RTN when a pagination error occurs due to recording lag relative to receiving.

- **Selector 8: Limitation of attenuation level**

  Setting this selector to "0" limits the transmitting level of the modem to 10 dB.

  This setting has priority over the settings selected by WSW02 (selectors 5 through 8) and WSW13 (selectors 5 through 8).

**WSW24 (TAD setting 2)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 8 | Not used. | |

**WSW25 (TAD setting 3)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 4 | Not used. | |
| 5 \| 7 | Pause between paging number and PIN | No. 5 6 7<br>0 0 0 : 2 sec.<br>0 0 1 : 4 sec.<br>0 1 0 : 6 sec.<br>0 1 1 : 8 sec.<br>1 0 0 : 10 sec.<br>1 0 1 : 12 sec.<br>1 1 0 : 14 sec.<br>1 1 1 : 16 sec. |
| 8 | Not used. | |

**NOTE:** Selectors 5 through 7 are applicable only to the U.S.A. versions.

- **Selectors 5 through 7: Pause between paging number and PIN**

  These selectors set the pause time between a telephone number being paged and PIN (private identification number) for the paging feature.

**WSW26 (Function setting 4)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 3 | Not used. | |
| 4<br>5 | No. of CNG cycles to be detected<br>(when the line is connected via the external telephone except in the external TAD mode) | No. 4 5<br>0 0 : 0.5 (A)<br>0 1 : 1 (B)<br>1 0 : 1.5 (C)<br>1 1 : 2 (D) |
| 6 \| 8 | Not used. | |

- **Selectors 4 and 5: No. of CNG cycles to be detected**

  The equipment interprets a CNG as an effective signal if it detects a CNG signal by the number of cycles specified by these selectors when the line is connected via the external telephone except in the external TAD mode.

**WSW27 (Function setting 5)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | Not used. | |
| 2 | Ringer OFF setting | 0: Yes 1: No |
| 3 | Not used. | |
| 4 | Detection of distinctive ringing pattern | 0: No 1: Yes |
| 5 \| 8 | Not used. | |

**NOTE:** Selector 4 is applicable only to the U.S.A. versions

- **Selector 2: Ringer OFF setting**

  This selector determines whether or not the ringer can be set to OFF.

- **Selector 4: Detection of distinctive ringing pattern**

  If this selector is set to "1," the equipment detects only the number of rings; if it is set to "0," the equipment detects the number of rings and the ringing time length to compare the detected ringing pattern with the registered distinctive one.

**WSW28 (Function setting 6)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>\|<br>3 | Transmission level of DTMF high-band frequency signal | No. 1 2 3<br>0 0 0 : 0 dB<br>0 0 1 : +1 dB<br>0 1 0 : +2 dB<br>0 1 1 : +3 dB<br>1 0 0 : 0 dB<br>1 0 1 : -1 dB<br>1 1 0 : -2 dB<br>1 1 1 : -3 dB |
| 4<br>\|<br>6 | Transmission level of DTMF low-band frequency signal | No. 4 5 6<br>0 0 0 : 0 dB<br>0 0 1 : +1 dB<br>0 1 0 : +2 dB<br>0 1 1 : +3 dB<br>1 0 0 : 0 dB<br>1 0 1 : -1 dB<br>1 1 0 : -2 dB<br>1 1 1 : -3 dB |
| 7 | Current available resolution in receiving | 0: Sends the current resolution statement<br>1: Switches the resolution to the lower level |
| 8 | Not used. | |

- **Selectors 1 through 6: Transmission level of DTMF high-/low-band frequency signal**

  These selectors are intended for the manufacturer who tests the equipment for the Standard. Never access them.

- **Selector 7: Current available resolution in receiving**

  If this selector is set to "0," the equipment will send the resolution statement to the calling station, telling the maximum capacity of the equipment independent of the current memory space available.

  If this selector is set to "1," the equipment automatically switches the resolution to the lower level (superfine → fine → standard) if the memory space is insufficient to receive data at the designated resolution.

**WSW29 (Function setting 7)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 6 | Not used. | |
| 7 | Impedance switching control in pulse dialing | 0: OFF 1: ON |
| 8 | Beep when the memory area for the activity report becomes full | 0: No 1: Yes |

**NOTE:** Selector 8 is applicable to the European version only.

- **Selector 8: Beep when the memory area for the activity report becomes full**

  If this selector is set to "1," the equipment will beep when the memory area for the activity report becomes full (as well as displaying a message on the LCD, prompting the output of the activity report).

**WSW30 (Function setting 8)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 8 | Not used. | |

**WSW31 (Function setting 9)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | Not used. | |
| 2 | Default reduction rate for failure of automatic reduction during recording | 0: 100% 1: 70% |
| 3 | Backing up received data | 0: Yes 1: No |
| 4 | Black ink empty sensor | 0: Yes 1: No |
| 5 | Minimum short-OFF duration in distinctive ringing | 0: 130 ms 1: 90 ms |
| 6 \| 8 | Not used. | |

**NOTE:** Selector 5 is applicable only to the U.S.A. versions.

- **Selector 2: Default reduction rate for failure of automatic reduction during recording**

  This selector sets the default reduction rate to be applied if the automatic reduction function fails to record one-page data sent from the calling station in a single page of the current recording paper.

  If it is set to "0," the equipment records one-page data at full size (100%) without reduction; if it is set to "1," the equipment records it at 70% size.

- **Selector 3: Backing up received data**

  This selector determines whether the equipment backs up received data into the DRAM (just as in the backup operation to be performed if a paper-empty error, ink-empty error or cover-open error occurs). Only the data received at the latest five transmission sequences may be backed up. To print out the backed-up data, press the **Help** key while holding down the **Shift** key, or carry out purging operation.

- **Selector 5 Minimum short-OFF duration in distinctive ringing**

  The ringer pattern consists of short and long rings, e.g., short-short-long rings. This selector sets the minimum OFF duration following a short ring in order to avoid missing ringer tones in distinctive ringing.

  If this selector is set to "1," when the short-OFF duration is a minimum of 90 ms long, then the equipment will interpret the short-OFF as OFF.

**WSW32 (Function setting 10)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1<br>\|<br>4 | Not used. | |
| 5<br>6 | Default resolution | No. 5 6<br>0 0 : Standard<br>0 1 : Fine<br>1 0 : Super fine<br>1 1 : Photo |
| 7<br>8 | Default contrast | No. 7 8<br>0 X : Automatic<br>1 0 : Super light<br>1 1 : Super dark |

- **Selectors 5 and 6: Default resolution**

  These selectors set the default resolution which applies when the equipment is powered up or completes a transaction.

- **Selectors 7 and 8: Default contrast**

  These selectors set the default contrast which applies when the equipment is powered up or completes a transaction.

**WSW33 (Function setting 11)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 3 | Not used. | |
| 4<br>5 | FAX receiving speed to be kept within the transmission speed limit to the PC | No. 4 5<br>0 0 : 14,400 bps<br>0 1 : 12,000 bps<br>1 0 : 9,600 bps<br>1 1 : 7,200 bps |
| 6 \| 8 | Not used. | |

- **Selectors 4 and 5: FAX receiving speed to be kept within the transmission speed limit to the PC**

  To transmit FAX data being received from other facsimile equipment to the connected PC, you may need to keep the FAX receiving speed within the transmission speed limit to the PC. In an initial negotiation sequence for transmission, the equipment responds to the calling station with the allowable FAX receiving speed specified by these selectors.

**WSW34 (Function setting 12)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 3 | Not used. | |
| 4<br>5 | No. of CNG cycles to be detected (when the line is connected via the external telephone in the external TAD mode) | No. 4 5<br>0 0 : 0.5 (A)<br>0 1 : 1 (B)<br>1 0 : 1.5 (C)<br>1 1 : 2 (D) |
| 6<br>7 | Number of DTMF tone signals for inhibiting the detection of CNG during external TAD operation | No. 6 7<br>0 0 : 3<br>0 1 : 2<br>1 0 : 1<br>1 1 : OFF |
| 8 | Not used. | |

- **Selectors 4 and 5: No. of CNG cycles to be detected**

  The equipment interprets a CNG as an effective signal if it detects a CNG signal by the number of cycles specified by these selectors when the line is connected via the external telephone in the external TAD mode.

- **Selectors 6 and 7: Number of DTMF tone signals for inhibiting the detection of CNG during external TAD operation**

  If the equipment receives this specified number of DTMF tone signals during external TAD operation, it will not detect CNG afterwards.

  If these selectors are set to "1, 1," the CNG detection will not be inhibited.

**WSW35 (Function setting 13)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 \| 8 | Not used. | |

**WSW36 (Function setting 14)**

| Selector No. | Function | Setting and Specifications |
|---|---|---|
| 1 | ECP mode* | 0: ON 1: OFF |
| 2 | Recovery from Inactive PC Interface | 0: Disabled 1: Enabled |
| 3 | PC Power-off Recognition Time | 0: Normal 1: Long |
| 4<br>5 | Not used. | |
| 6<br>\|<br>8 | Lower limit of frequency to be ignored after detection of calling signals (Ci) | No. 6 7 8<br>0 0 0 : 0 (Not ignored)<br>0 0 1 : 4 (448 Hz)<br>0 1 0 : 8 (244 Hz)<br>0 1 1 : 12 (162 Hz)<br>1 0 0 : 16 (122 Hz)<br>1 0 1 : 20 (97 Hz)<br>1 1 0 : 24 (81 Hz)<br>1 1 1 : 28 (69 Hz) |

*ECP (Enhanced Capabilities Port)

- **Selector 1: ECP mode**

  The ECP mode enhances the normal bidirectional communications between the facsimile equipment and the connected PC for higher transmission speed.

- **Selector 2: Recovery from Inactive PC Interface**

  If the facsimile equipment recognizes via the STB signal line that the connected PC is powered off, it will turn the PC interface outputs Low to protect the PC from hazards that could be caused by weak electric current accidentally flown from the equipment.

  This selector determines whether the equipment should recover from the inactive PC interface to normal interfacing state upon receipt of data from the PC.

- **Selector 3: PC Power-off Recognition Time**

  This selector sets the time length from when the equipment detects the PC powered off until it recognizes the detected state as power-off.

  If selector 2 is set to "0," it is recommended that selector 3 be set to "1"; otherwise, the equipment may mistakenly detect PC powered off.

- **Selectors 6 through 8: Lower limit of frequency to be ignored after detection of calling signals (Ci)**

  At the start of reception, if the equipment detects the frequency of calling signals (Ci) specified by selectors 1 through 4 of WSW14, it will start the ringer sounding. When doing so, the equipment may fail to detect the calling signals normally due to noises superimposed at the time of reception. To prevent it, use selectors 6 through 8 of WSW36.

  If the equipment detects higher frequencies than the lower limit specified by these selectors, it will regard them as noise and interpret that detecting state as being normal, allowing the ringer to keep sounding (until the equipment starts automatic reception of FAX data if in the FAX mode, according to the preset number of ringers).

## [ B ] Printout of firmware switch data

### n Function

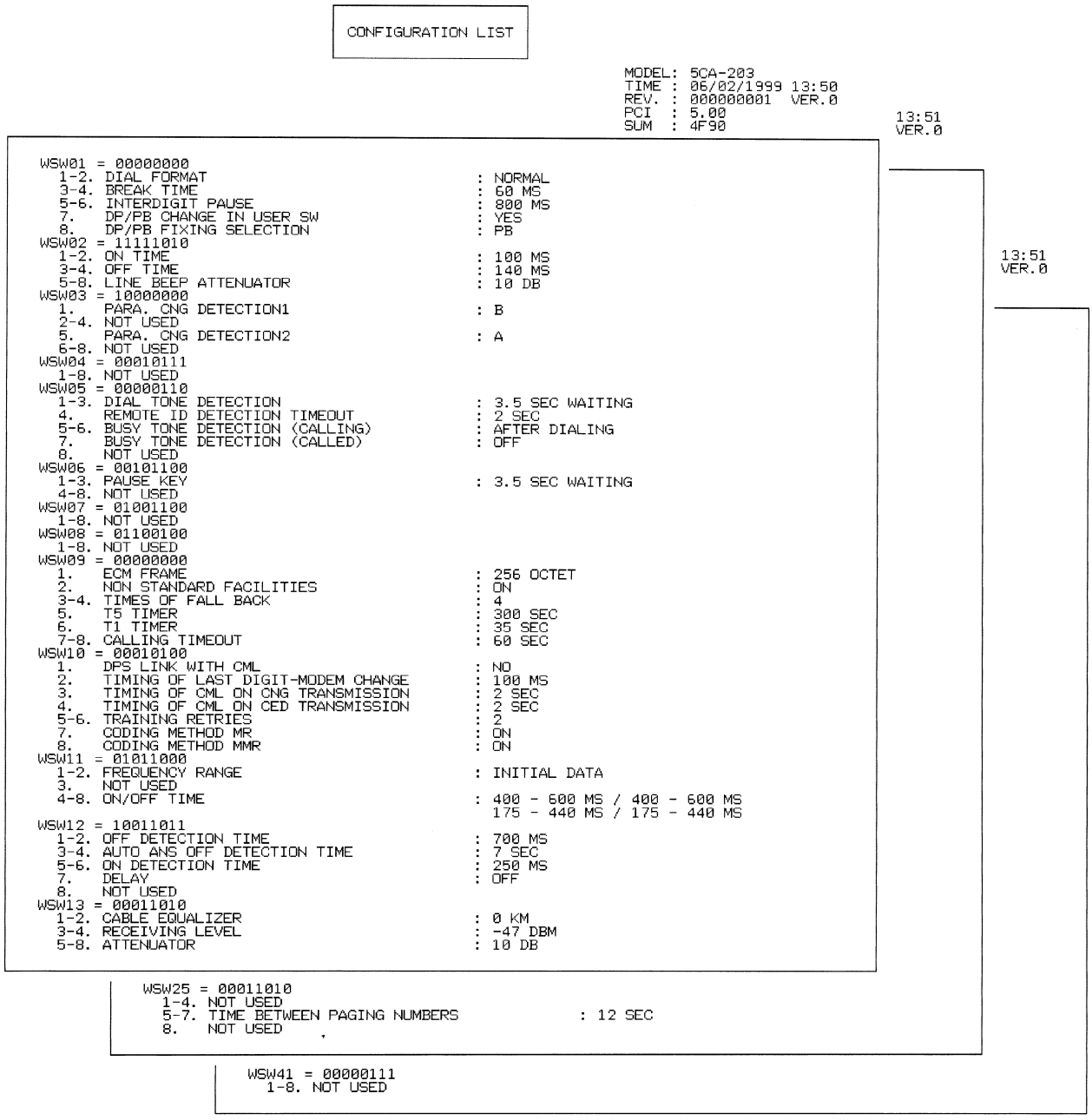
The equipment prints out the setting items and contents specified by the firmware switches.

### n Operating Procedure

(1) Press the **1** key twice in the initial stage of the maintenance mode.
The "PRINTING" will appear on the LCD.

(2) The equipment prints out the configuration list as shown in the figure below.

(3) Upon completion of printing, the equipment returns to the initial stage of the maintenance mode.


CONFIGURATION LIST
MODEL: 5CA-203
TIME : 06/02/1999 13:50
REV. : 000000001 VER.0
PCI : 5.00
SUM : 4F90
13:51
VER.0
WSW01 = 00000000
1-2. DIAL FORMAT : NORMAL
3-4. BREAK TIME : 60 MS
5-6. INTERDIGIT PAUSE : 800 MS
7. DP/PB CHANGE IN USER SW : YES
8. DP/PB FIXING SELECTION : PB
WSW02 = 11111010
1-2. ON TIME : 100 MS
3-4. OFF TIME : 140 MS
5-8. LINE BEEP ATTENUATOR : 10 DB
WSW03 = 10000000
1. PARA. CNG DETECTION1 : B
2-4. NOT USED
5. PARA. CNG DETECTION2 : A
6-8. NOT USED
WSW04 = 00010111
1-8. NOT USED
WSW05 = 00000110
1-3. DIAL TONE DETECTION : 3.5 SEC WAITING
4. REMOTE ID DETECTION TIMEOUT : 2 SEC
5-6. BUSY TONE DETECTION (CALLING) : AFTER DIALING
7. BUSY TONE DETECTION (CALLED) : OFF
8. NOT USED
WSW06 = 00101100
1-3. PAUSE KEY : 3.5 SEC WAITING
4-8. NOT USED
WSW07 = 01001100
1-8. NOT USED
WSW08 = 01100100
1-8. NOT USED
WSW09 = 00000000
1. ECM FRAME : 256 OCTET
2. NON STANDARD FACILITIES : ON
3-4. TIMES OF FALL BACK : 4
5. T5 TIMER : 300 SEC
6. T1 TIMER : 35 SEC
7-8. CALLING TIMEOUT : 60 SEC
WSW10 = 00010100
1. DPS LINK WITH CML : NO
2. TIMING OF LAST DIGIT-MODEM CHANGE : 100 MS
3. TIMING OF CML ON CNG TRANSMISSION : 2 SEC
4. TIMING OF CML ON CED TRANSMISSION : 2 SEC
5-6. TRAINING RETRIES : 2
7. CODING METHOD MR : ON
8. CODING METHOD MMR : ON
WSW11 = 01011000
1-2. FREQUENCY RANGE : INITIAL DATA
3. NOT USED
4-8. ON/OFF TIME : 400 - 600 MS / 400 - 600 MS
175 - 440 MS / 175 - 440 MS
WSW12 = 10011011
1-2. OFF DETECTION TIME : 700 MS
3-4. AUTO ANS OFF DETECTION TIME : 7 SEC
5-6. ON DETECTION TIME : 250 MS
7. DELAY : OFF
8. NOT USED
WSW13 = 00011010
1-2. CABLE EQUALIZER : 0 KM
3-4. RECEIVING LEVEL : -47 DBM
5-8. ATTENUATOR : 10 DB
13:51
VER.0
WSW25 = 00011010
1-4. NOT USED
5-7. TIME BETWEEN PAGING NUMBERS : 12 SEC
8. NOT USED
WSW41 = 00000111
1-8. NOT USED

**Configuration List**

### 3.6 Operational Check of LCD

#### n Function

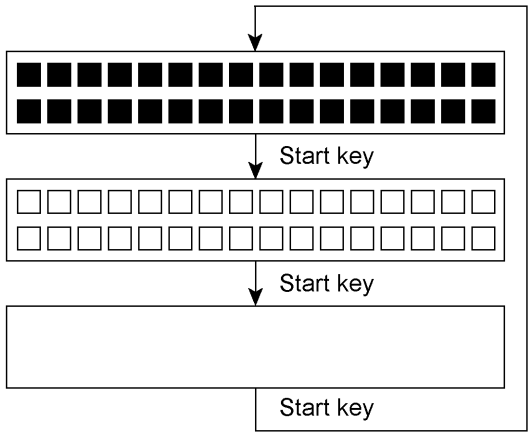
This function allows you to check whether the LCD on the control panel works normally.

#### n Operating Procedure

(1) Press the **1** and **2** keys in this order in the initial stage of the maintenance mode.

The LCD shows

(2) Press the **Start** key. Each time you press the **Start** key, the LCD cycles through the displays shown at right.




(3) Press the **Stop** key in any process of the above display cycle. The equipment beeps for one second and returns to the initial stage of the maintenance mode.

### 3.7 Operational Check of Control Panel PCB

#### n Function

This function allows you to check the control panel PCB for normal operation.

#### n Operating Procedure

(1) Press the **1** and **3** keys in this order in the initial stage of the maintenance mode.

The "00 " will appear on the LCD.

(2) Press the keys and buttons in the order designated in the illustration shown below.

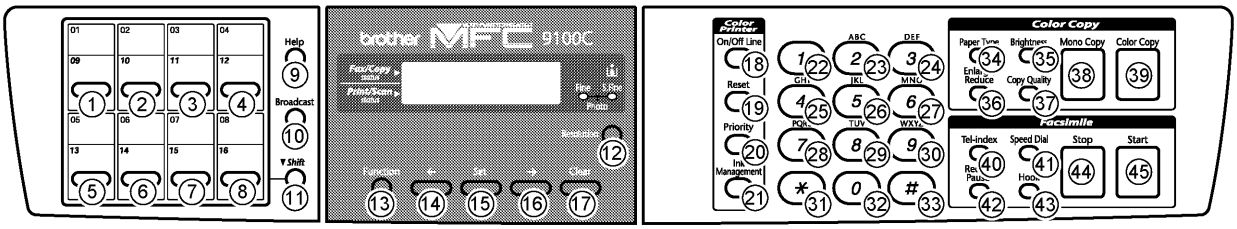
The LCD shows the corresponding number in decimal notation each time a key or button is pressed. Check that the displayed number is correct by referring to the illustration below.

If a key or button is pressed out of order, the equipment beeps and displays the "INVALID OPERATE" on the LCD. To return to the status ready to accept key & button entry for operational check, press the **Stop** key.

(3) After the last number key or button is pressed, the equipment beeps and returns to the initial stage of the maintenance mode.

To terminate this operation, press the **Stop** key. The equipment returns to the initial stage of the maintenance mode.

MFC9100C/MFC760




**Key & Button Entry Order**

### 3.8 Sensor Operational Check

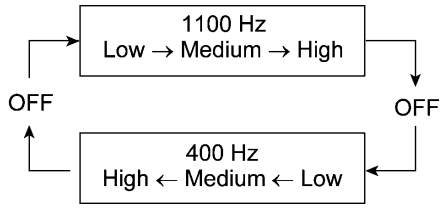
#### n Function

This function allows you to check whether the following 14 sensors operate correctly.

- Document front sensor
- Document rear sensor
- Cassette sensor
- Cover sensor
- Registration sensor
- Paper width sensor
- Paper ejection sensor
- Purge cam HP switch
- CCD HP sensor
- Head property EEPROM
- Black ink cartridge sensor
- Yellow ink cartridge sensor
- Cyan ink cartridge sensor
- Magenta ink cartridge sensor

#### n Operating Procedure

(1) Press the **3** and **2** keys in this order in the initial stage of the maintenance mode. The equipment beeps 1100 Hz and 400 Hz tones cyclically through the following volumes for testing the speaker.




**NOTE:** To stop beeping, press the **Function** key (American models) or **Menu** key (European models).

If the sensing status are as listed below, the LCD will show "FRRET1##CVRGWD##" and "JMPGFHHDIKIYICIM," which can be switched by pressing the **Start** key. (## means that the area is not used.)

Given below is the relationship between the LCD indication, sensor name and sensor status.

| LCD | Sensors | Sensing status |
|---|---|---|
| FR | Document front sensor | No document detected. |
| RE | Document rear sensor | No document detected. |
| T1 | Cassette sensor | Paper cassette loaded. |
| CV | Cover sensor | Scanner unit closed. |
| RG | Registration sensor | No recording paper detected. |
| WD | Paper width sensor | No recording paper (A4 or wider) detected. |
| JM | Paper ejection sensor | No recording paper detected. |
| PG | Purge cam HP switch | Purge cam placed in the home position. |
| FH | CCD HP sensor | CCD unit placed in the home position. |
| HD | Head property EEPROM | Head (rank) detected. |
| IK | Black ink cartridge sensor | Black ink cartridge loaded. |
| IY | Yellow ink cartridge sensor | Yellow ink cartridge loaded. |
| IC | Cyan ink cartridge sensor | Cyan ink cartridge loaded. |
| IM | Magenta ink cartridge sensor | Magenta ink cartridge loaded. |

(2) Change the detecting conditions and check that the displayed letters disappear. For example, insert a document through the document front sensor and check that the "FR" disappears.

(3) To stop this operation and return the equipment to the initial stage of the maintenance mode, press the **Stop** key.

### 3.9 CCD Scanner Area Setting

#### n Function

The equipment sets the CCD scanner area and stores it into the EEPROM.

#### n Operating Procedure

(1) Press the **5** key twice in the initial stage of the maintenance mode.

The "SCANNER AREA SET," "BLACK LEVEL INIT," and "WHITE LEVEL INIT" will appear on the LCD in this order.

The equipment checks and sets the area to be scanned.

If no error is noted, the equipment returns to the initial stage of the maintenance mode.

If any error is noted, the "SCANNER ERROR" will appear on the LCD. To return the equipment to the initial stage of the maintenance mode, press the **Stop** key.

### 3.10 Setting the Sensing Reference Levels of Black Ink Empty Sensor

#### n Function

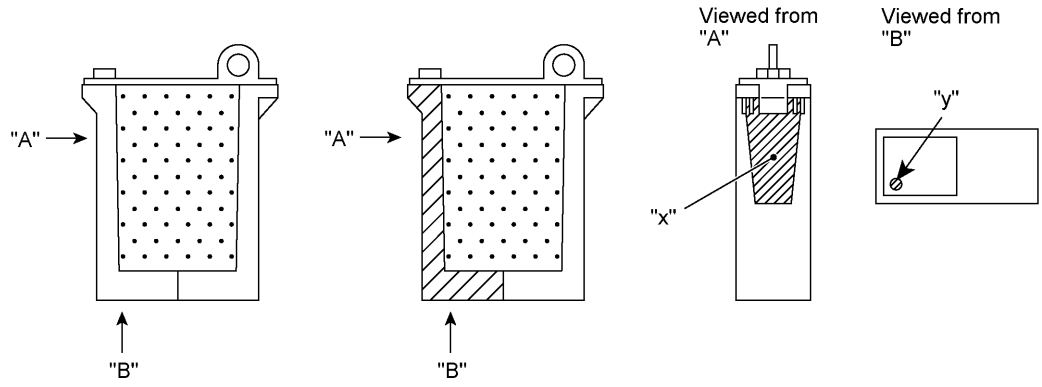
This function allows you to set the sensing reference levels of the black ink empty sensor which apply when the controller judges whether there is ink in the black ink cartridge. The setting procedure requires two types of reference cartridges—an empty cartridge and foam-empty cartridge.

**NOTE:** If you replace the carriage ASSY, carry out this procedure.

#### n Operating Procedure

**Handling notes for reference cartridges:** Shown below are empty cartridge and foam-empty cartridge to be used for setting the sensing reference levels of the black ink empty sensor. Do not touch section "x" or "y."

If any dust or dirt is found on "x" or "y," wipe it off with a soft cloth. If "x" is scratched, replace the cartridge with a new one. Using such a scratched cartridge will fail to set correct reference levels. After completion of the setting procedure, store those cartridges in the container.




Empty cartridge Foam-empty cartridge

(1) Press the **5** and **7** keys in this order in the initial stage of the maintenance mode.

The LCD shows the "BKEMP TEST START" and "REMOVE ALL CART!" alternately.

(2) Open the scanner unit.

The carriage automatically moves left to the ink cartridge replacement position.

(3) Remove all ink cartridges, one at a time.

(4) Close the scanner unit.

(5) Press the **Stop** key to return to the initial stage of the maintenance mode.

(6) Press the **5** and **7** keys in this order again.

The LCD shows the "BKEMP TEST START" and "SET EMPTY CART!" alternately.

(7) Open the scanner unit.

The carriage automatically moves left to the ink cartridge replacement position.

(8) Set the empty cartridge into the black ink cartridge position.

(9) Close the scanner unit.

The equipment shows the "-BKEMP CHECK-" and starts setting the sensing level for the empty cartridge.

If the equipment completes setting normally, the "SET F.EMP CART!!" appears. If it fails, the "BKEMP EMPTY:NG!" appears, so press the **Stop** key and go back to step (1).

(10) Open the scanner unit.

The carriage automatically moves left to the ink cartridge replacement position.

(11) Remove the empty cartridge and set the foam-empty cartridge into the black ink cartridge position instead.

(12) Close the scanner unit.

The equipment shows the "-BKEMP CHECK-" and starts setting the sensing level for the foam-empty cartridge.

If the equipment normally completes setting, it beeps and displays the "SET F.EMP CART!!." Two seconds later, the "SET ALL NEW CART" appears. If it fails, the "BKEMP F.EMP:NG!" appears, so press the **Stop** key and go back to step (1).

(13) Open the scanner unit and remove the foam-empty cartridge.

(14) Load all ink cartridges removed in step (3) back into place.

(15) Close the scanner unit.

The equipment shows the "PURGE TYPE 1235?" on the LCD.

1: Ordinary purging
2: Double purging
3: Triple purging
5: Ink priming

(16) Choose the desired type of purging operation by using the **1**, **2**, **3**, or **5** key. (Usually choose "3: Triple purging.")

The equipment automatically carries out purging for all colors of ink and then aging of the carriage (to obtain the initial value of the PWM). This will take approx. 10 minutes if you choose "3: Triple purging."

(17) Press the **Stop** key to return to the initial stage of the maintenance mode.

### 3.11 Alignment of Vertical Print Lines

#### n Function

This function allows you to align vertical lines printed in the forward and backward direction of the carriage.

#### n Operating Procedure

(1) Press the **6** and **5** keys in this order in the initial stage of the maintenance mode.

The equipment prints out a set of vertical alignment check patterns which consist of No. 1 to No. 9 lines for each of the 360 dpi, 720 dpi, and 1440 dpi.

If the vertical alignment is on, No. 5 line (each in the 360 dpi, 720 dpi, and 1440 dpi printouts) shows vertically aligned lines as shown on the next page.

The LCD shows the "360DPI ADJUST" and "ENTER NO. (1-9)" alternately.

(2) Check the printed vertical alignment check patterns for the 360 dpi and find which number line shows full alignment. If the line is other than No. 5, enter that line number by using the numerical keys. In the example given below, No. 5 line is not aligned and No. 9 line is fully aligned, so press the **9** key.

The LCD shows the "720DPI ADJUST" and "ENTER NO. (1-9)" alternately.

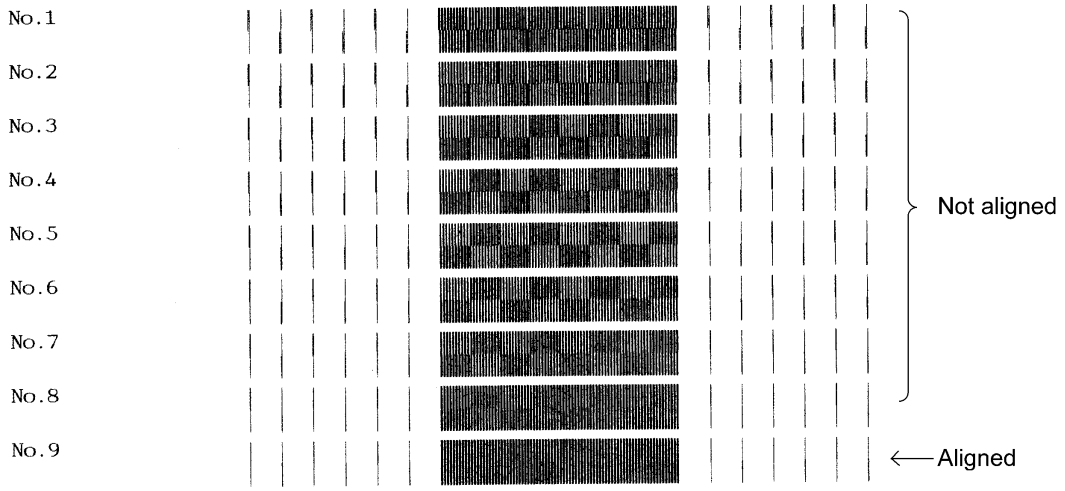
(3) For the 720 dpi, perform the same operation as in step (2).

The LCD shows the "1440DPI ADJUST" and "ENTER NO. (1-9)" alternately.

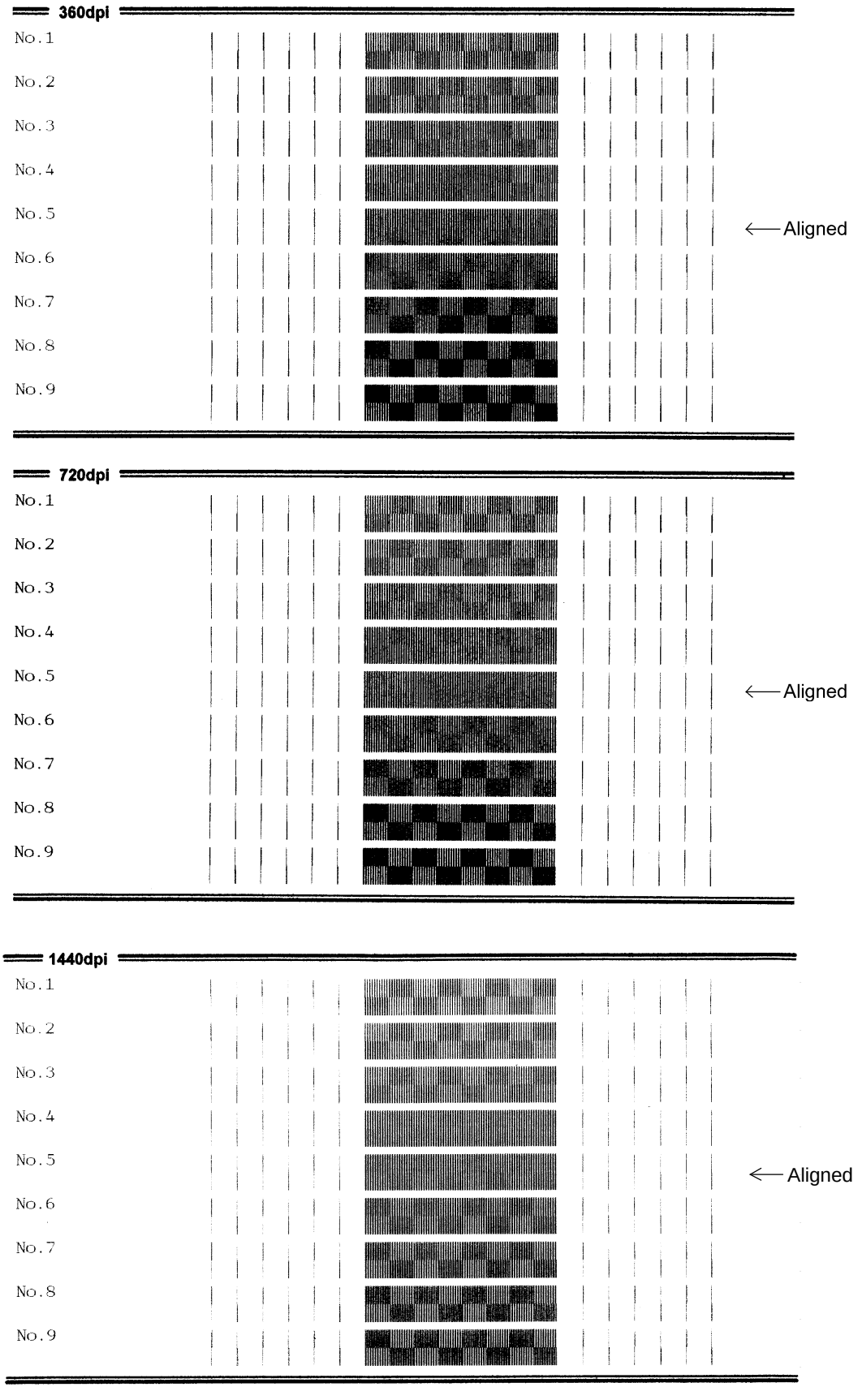
(4) For the 1440 dpi, perform the same operation as in step (2).

The equipment automatically returns to the initial stage of the maintenance mode.

**NOTE:** If No. 1 line or No. 9 line is fully aligned so that you press the **1** or **9** key in the above procedure, go back to step (1) to confirm that No. 5 line becomes aligned.




**Vertical Alignment Check Pattern—Alignment OFF**




**Vertical Alignment Check Pattern—Alignment ON**

### 3.12 Initial Adjustment of PWM Value (Aging of the Carriage)

#### n Function

This function obtains the initial value of the PWM by aging the carriage and writes it onto the EEPROM, as well as checking the head drive voltage level.

This aging procedure should be performed if you replace the print head, carriage ASSY, carriage motor, or encoder strip or if you loosen the CCD drive belt.

**NOTE:** Opening the scanner unit during the aging procedure will result in an error. If you perform this aging procedure with the scanner unit opened, the equipment will slowly age the carriage resulting in an error after completion of the aging.

#### n Operating Procedure

(1) Press the **6** and **9** keys in this order in the initial stage of the maintenance mode.

The equipment starts aging the carriage, showing the "CR AGING" on the LCD.

After writing the initial value of the PWM onto the EEPROM and checking the head drive voltage level, the equipment automatically returns to the initial stage of the maintenance mode.

If any error occurs, the equipment beeps and shows "CR AGING :ERROR" on the LCD. To return to the initial stage of the maintenance mode, press the **Stop** key.

### 3.13 EEPROM Customizing

#### n Function

This function allows you to customize the EEPROM according to language, function settings, and firmware switch settings. The customizing codes list is given in Appendix 1.

**NOTE:** If you replace the main PCB, be sure to carry out this procedure.

#### n Operating Procedure

(1) Press the **7** and **4** keys in this order in the initial stage of the maintenance mode.

The current customizing code (e.g., 1001 in the case of MFC9100C U.S.A. version) appears.

(2) Enter the desired customizing code (e.g., 0002 in the case of MFC9100C Canadian version).

The newly entered code appears.

***NOTE:*** *If a wrong 4-digit code is entered, the equipment will malfunction.*

(3) Press the **Start** key.

The equipment saves the setting and returns to the initial stage of the maintenance mode.

If you press the **Stop** key or no keys are pressed for one minute in the above procedure, the equipment stops the procedure and returns to the initial stage of the maintenance mode.

### 3.14 Equipment Error Code Indication

#### n Function

This function displays an error code of the last error on the LCD.

#### n Operating Procedure

(1) Press the **8** and **2** keys in this order in the initial stage of the maintenance mode.

The LCD shows the "MACHINE ERR X X."

**NOTE:** The "MACHINE ERR X X X X" may appear. The lower two X X shows the detailed code for assembly line.

(2) To stop this operation and return the equipment to the initial stage of the maintenance mode, press the **Stop** key.

### 3.15 Output of Transmission Log to the Telephone Line

#### n Function

This function outputs the transmission log (that the equipment has stored about the latest transmission) to the telephone line. It allows the service personnel to receive the transmission log of the user's equipment at a remote location and use it for analyzing problems arising in the user's equipment.

#### n Operating Procedure

(1) If the user's equipment has a transmission-related problem, call the user's equipment at a remote location from your equipment.

(2) If the line is connected, have the user perform the following:

1) MFC9100C: Press the **Function**, **Resolution**, and **0** keys in this order.

2) MFC760: Press the **Menu**, **Resolution**, and **0** keys in this order.

The above operation makes the user's equipment send CNG to your equipment for sending the transmission log.

(3) If you hear the CNG sent from the user's equipment, press the **Start** key of your equipment.

Your equipment will start to receive the transmission log from the user's equipment.

# CHAPTER VI.

## ERROR INDICATION AND TROUBLESHOOTING

# CHAPTER VI. ERROR INDICATION AND TROUBLESHOOTING

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# 1. ERROR INDICATION

To help the user or the service personnel promptly locate the cause of a problem (if any), the facsimile equipment incorporates the self-diagnostic functions which display error messages for equipment errors and communications errors.

For the communications errors, the equipment also prints out the transmission verification report and the communications list.

## 1.1 Equipment Errors

If an equipment error occurs, the facsimile equipment emits an audible alarm (continuous beeping) for approximately 4 seconds and shows the error message on the LCD. For the error messages, see [ 1 ] below.

To display detailed error information, use the maintenance-mode function code 82 described in Chapter V, Section 3.14 (that is, make the equipment enter the maintenance mode and then press the **8** and **2** keys). Following the MACHINE ERR, one of the error codes listed in [ 2 ] will appear on the LCD.

### [ 1 ] Error messages on the LCD

| Messages on the LCD | Probable Cause |
|---|---|
| CHECK PAPER | The registration sensor detects no recording paper loaded in the paper cassette. |
| PRINTER JAM | The paper ejection sensor detects that a paper jam has occurred. |
| CHECK PAPER SIZE | The paper width sensor stays ON, detecting no recording paper wider than A4-size loaded. Or the sensor stays OFF too long, detecting that the paper is abnormally long. |
| COVER OPEN | The cover sensor detects that the scanner unit is not closed. |
| CHECK CASSETTE | The cassette sensor detects that the paper cassette is not loaded properly. |
| DOCUMENT JAM | n Document jam<br>(1) The document length exceeds the limitation (400 or 90 cm) registered by firmware switch WSW16. (Refer to Chapter V, Section 3.5.)<br>(Both the document front and rear sensors stay ON even after the document has been fed by the registered length.)<br>(2) The document rear sensor detects no trailing edge of a document after the document has been fed by 400 cm.<br>(The document rear sensor stays ON even after the document has been fed when the document front and rear sensors were OFF and ON, respectively.) |

| Messages on the LCD | Probable Cause |
|---|---|
| DOCUMENT JAM | n Document loading error<br>(1) The document rear sensor detects no leading edge of a document within 10 seconds from the start of document loading operation.<br>(The document rear sensor stays OFF even after the document has been fed when the document front sensor was ON.)<br>(2) The loaded document is too short.<br>(Since the document is shorter than the distance between the document front and rear sensors, the document front sensor is turned OFF before the document rear sensor is turned ON.) |
| CLEAN UP SCANNER | In the scanning compensation data list printed by the maintenance-mode function code 05 (refer to Chap. V, Section 3.2), less than fifty percent of the white level data is faulty.<br>(This message may appear only in the maintenance mode) |
| SCANNER ERROR | In the scanning compensation data list printed by the maintenance-mode function code 05 (refer to Chap. V, Section 3.2), fifty percent or more of the white level data is faulty.<br>(This message may appear only in the maintenance mode) |
| NEAR EMPTY CYAN<br>NEAR EMPTY MGENT<br>NEAR EMPTY YELLW<br>NEAR EMPTY BLACK | The ink dot counter (for cyan, magenta, yellow, or black) in the EEPROM on the head PCB has counted up the specified number of dots, meaning near empty of ink. Even if any of these messages is displayed, color printing is still possible. |
| INK EMPTY CYAN<br>INK EMPTY MAGENT<br>INK EMPTY YELLOW<br>INK EMPTY BLACK | The ink dot counter (for cyan, magenta, yellow, or black) in the EEPROM on the head PCB has counted up the specified number of dots, meaning that the ink has run out. Once any of these messages is displayed, color printing is no longer possible. (If black ink remains, printing of the received data record or monochrome copying is possible.)<br>**NOTE:** For checking how much the black ink remains accurately, the controller compensates the ink dot count with the black ink empty sensor. |
| SET CARTRIDGES | Any one of the four ink cartridge sensors detects no ink cartridge loaded. |
| WARMING UP | The temperature inside the equipment has dropped to 5.5°C or below after two hours of powering-on state, or it has dropped to 3.5°C or below within two hours of powering-on state.<br>This message appears also when the fluorescent light in the scanner unit is warming up; that is, for approx. 3 minutes after the fluorescent light comes on. |
| COOLING DOWN | The temperature inside the equipment has exceeded 48°C. |

| Messages on the LCD | Probable Cause |
|---|---|
| SET INK HEAD | The CPU on the main PCB has detected no print head mounted when attempting to read the property information obtained by the head property detector and stored in the EEPROM on the head PCB. |
| PLS OPEN COVER | To display the relating detailed error code, use maintenance-mode function code 82. (Refer to Chapter V, Section 3.14.)<br>If this message appears, open and close the scanner unit. The message may disappear if opening/closing the scanner unit removes the error. If the error persists, the "MACHINE ERROR X X" will appear instead of this message. |
| CHECK SCAN LOCK | The output of the CCD HP sensor does not change because:<br>1) The CCD lock is placed in the lock (backward) position,<br>2) The CCD HP sensor is defective, or<br>3) The CCD motor is defective. |
| PC BUSY OR FAIL | After connected with the host computer, the equipment has received no response from the computer. (A communications error has occurred.) |

If only an alarm beep is heard without any message on the LCD when the equipment is powered up, the ROM or RAM will be defective.

**[ 2 ] Error codes shown in the "MACHINE ERR X X " message**

If the LCD shows the "PLS OPEN COVER" message, you can display the detailed error code following the MACHINE ERR, by using the maintenance-mode function code 82 described in Chapter V, Section 3.14.

**NOTE:** When checking a PCB as instructed in the "Check:" column, check its harness also.

**NOTE:** To check sensors, use the maintenance-mode function code 32 described in Chapter V, Section 3.8 (that is, press the **3** and **2** keys in the maintenance mode).

| Error Code (Hex) | Error factor | Check: |
|---|---|---|
| 23 | Printer engine timeout. | • Main PCB |
| 25 | Ink cartridges had already been loaded when the power was first applied. | Reload ink cartridges, referring to the Owner's Manual. |
| 31 | The carriage cannot travel to the right or left. | • Carriage ASSY<br>• Encoder strip (Any stains or scratches? Hooked correctly?)<br>• Paper feed motor<br>• Main PCB<br>• Power supply PCB<br>• Purge unit<br>• Main chassis |
| 32 | After driven by the specified number of pulses, the carriage does not stop (since it cannot detect the left end of the travel). | |
| 33 | The carriage movement parameter exceeded the travel range during printing. | |
| 34 | When initialized, the carriage could not detect the right or left end of the travel range. | |
| 35 | The carriage cannot move in midway of travel. | |
| 38 | The carriage stop position is out of the travel range. | |
| 39 | Printing area error. | |
| 3A | Sudden carriage stop during printing acceleration. | • Carriage ASSY<br>• Encoder strip (Any stains or scratches? Hooked correctly?)<br>• Paper feed motor<br>• Main PCB<br>• Power supply PCB<br>• Purge unit<br>• Main chassis |
| 3D | The carriage has overridden the travel range. | |
| 41 | The head drive voltage has not been turned from Low to High within the specified time. | • Carriage ASSY<br>• Main PCB<br>• Print head unit<br>• Power supply PCB |
| 42 | The head drive voltage has not been turned from High to Low within the specified time. | |
| 43 | The head drive voltage sticks to Low. | • Print head unit<br>• Main PCB<br>• Power supply PCB |

| Error Code (Hex) | Error factor | Check: |
|---|---|---|
| 44 | Head thermistor broken. | • Print head unit<br>• Carriage ASSY<br>• Main PCB |
| 45 | Head thermistor short-circuited. | |
| 46 | The number of performed purge sequences has reached the limit. | • Ink absorbers<br>• Main PCB |
| 4B | Abnormal carriage travel speed detected when the power was applied. | • Encoder strip (Any stains or scratches? Hooked correctly?)<br>• Purge unit<br>• Main chassis<br>• Carriage ASSY<br>• Main PCB |
| 4C | Head rated voltage data stored in the EEPROM on the head PCB is invalid.<br>(This code may appear only in the maintenance mode.) | • Print head unit<br>• Main PCB<br>• Power supply PCB |
| | | |
| 50 | The purge cam HP switch does not come ON even after the purge cam has been driven by the specified number of pulses. | • Purge unit<br>• Main chassis<br>• Paper feed motor<br>• Main PCB |
| 51 | The purge cam HP switch does not go OFF even after the purge cam has been driven by the specified number of pulses. | |
| 52 | At the time of purge operation, the carriage has not stopped in the purge position. | |
| 53 | The purge cam HP switch has come ON when the carriage was in the wipe position. | |
| 54 | When reset, the purge cam HP switch does not come ON even after the purge cam has been driven by the specified number of pulses. | |
| 55 | When reset, the purge cam HP switch does not go OFF even after the purge cam has been driven by the specified number of pulses. | |

| Error Code (Hex) | Error factor | Check: |
|---|---|---|
| 82 | Recording paper feeding error. | • Paper cassette<br>• Registration sensor actuator<br>• Paper width sensor actuator<br>• Main PCB |
| 83 | Recording paper jam.<br>(The registration sensor sticks to OFF, indicating that paper has jammed.) | • Registration sensor actuator<br>• Main PCB |
| 84 | Recording paper jam.<br>(The paper ejection sensor has detected a paper jam.) | • Paper ejection sensor actuator<br>• Registration sensor actuator<br>• Main PCB |
| 88 | Recording paper jam.<br>(Even after the registration sensor has come ON, the paper ejection sensor does not detect paper.) | |
| | | |
| A1 | Scanner unit opened. | • Cover sensor actuator<br>• Main PCB<br>• Scanner unit |
| A2 | Document too long to scan. | • Document front sensor actuator<br>• Document rear sensor actuator<br>• Control panel PCB<br>• Document sensor PCB<br>• Document feed roller ASSY<br>• ADF motor<br>• Main PCB |
| A3 | Document not detected by the document rear sensor. | |
| A4 | 50% or more faulty of white level data. | • CCD unit<br>• Main PCB |
| A7 | One-line feeding timeout. | |
| A8 | One-line scanning timeout. | |
| AC | Less than 50% faulty of white level data. | • CCD unit<br>• Main PCB |
| AE | The CCD HP sensor sticks to OFF, indicating that the scanner has not returned to the home position. | • CCD HP sensor<br>• Main PCB<br>• CCD motor<br>• CCD drive belt |
| AF | The CCD HP sensor sticks to ON, indicating that the scanner has stayed in the home position. | |

| Error Code (Hex) | Error factor | Check: |
|---|---|---|
| B8 | A/D voltage regulation error. | • Carriage ASSY<br>• Main PCB<br>• Power supply PCB |
| B9 | Light emission intensity error of the cold-cathode fluorescent lamp. | • CCD unit<br>• Main PCB |
| BA | Scan area left edge detection error | • Wrong location of the white-level reference film |
| BB | Scan area right edge detection error | |
| BE | Detection error of black mark or its edge prepared for scan position correction | • No black mark found on the white-level reference film |
| D5 | The MODEM has failed to complete the command transmission sequence. | |
| | | |
| E4 | Out of recording paper. | • Paper cassette<br>• Registration sensor actuator<br>• Paper pick-up roller ASSY<br>• Main PCB |
| E6 | Write error in EEPROM | • Main PCB |
| E8 | Data scanning error during transmission. | • CCD unit<br>• Main PCB |
| EA | Document removed at phase B | |
| | | |
| F6 | PC interface error | • Interface cable<br>• Main PCB |
| 10 | Dark level offset data error: Too high. | • CCD unit<br>• Main PCB<br>• CCD flat cable |
| 11 | Dark level offset data error: Too low. | |
| 12 | Gain control data error: White level too high. | |
| 13 | Gain control data error: White level too low. | |
| 14 | A/D converter reference level for center value: Too high. | |
| 15 | A/D converter reference level for center value: Too low. | |
| 16 | A/D converter reference level for full range: Not adjustable. | |

## 1.2 Communications Errors

If a communications error occurs, the facsimile equipment

① emits an audible alarm (intermittent beeping) for approximately 4 seconds,

② displays the corresponding error message, and

③ prints out the transmission verification report if the equipment is in sending operation.

## n Definition of Error Codes on the Communications List

### (1) Calling

| Code 1 | Code 2 | Causes |
|---|---|---|
| 10 | 08 | Wrong number called. |
| 11 | 01 | No dial tone detected before start of dialing. |
| 11 | 02 | Busy tone detected before dialing. |
| 11 | 03 | 2nd dial tone not detected. |
| 11 | 05 | No loop current detected.* |
| 11 | 06 | Busy tone detected after dialing or called. |
| 11 | 07 | No response from the remote station in sending. |
| 11 | 10 | No tone detected after dialing. |
| | | |
| 17 | 07 | No response from the calling station in receiving. |
| | | |

*Available in German versions only.

### (2) Command reception

| Code 1 | Code 2 | Causes |
|---|---|---|
| 20 | 01 | Unable to detect a flag field. |
| 20 | 02 | Carrier was OFF for 200 ms or longer. |
| 20 | 03 | Abort detected ("1" in succession for 7 bits or more). |
| 20 | 04 | Overrun detected. |
| 20 | 05 | A frame for 3 seconds or more received. |
| 20 | 06 | CRC error in answerback. |
| 20 | 07 | Undefined command received. |
| 20 | 08 | Invalid command received. |
| 20 | 09 | Command ignored once for document setting or for dumping-out at turn-around transmission. |
| 20 | 0A | T5 time-out error |
| 20 | 0B | CRP received. |
| 20 | 0C | EOR and NULL received. |

**(3) Compatibility [checking the NSF and DIS]**

| Code 1 | Code 2 | Causes |
|---|---|---|
| 32 | 01 | Remote terminal only with V.29 capability in 2400 or 4800 bps transmission. |
| 32 | 02 | Remote terminal not ready for polling. |
| | | |
| | | |
| 32 | 10 | Remote terminal not equipped with password function or its password switch OFF. |
| 32 | 11 | Remote terminal not equipped with or not ready for confidential mail box function. |
| 32 | 12 | Remote terminal not equipped with or not ready for relay broadcasting function. |
| 32 | 13 | No confidential mail in the remote terminal. |
| 32 | 14 | The available memory space of the remote terminal is less than that required for reception of the confidential or relay broadcasting instruction. |
| | | |
| | | |
| | | |

**(4) Instructions received from the remote terminal [checking the NSC, DTC, NSS, and DCS]**

| Code 1 | Code 2 | Causes |
|---|---|---|
| 40 | 02 | Illegal coding system requested. |
| 40 | 03 | Illegal recording width requested. |
| | | |
| 40 | 05 | ECM requested although not allowed. |
| 40 | 06 | Polled while not ready. |
| 40 | 07 | No document to send when polled. |
| | | |
| | | |
| 40 | 10 | Nation code or manufacturer code not coincident. |
| 40 | 11 | Unregistered group code entered for relay broadcasting function, or the specified number of broadcasting subscribers exceeding the limit. |
| 40 | 12 | Retrieval attempted when not ready for retrieval. |
| 40 | 13 | Polled by any other manufacturers' terminal while waiting for secure polling. |
| 40 | 17 | Invalid resolution selected. |
| | | |
| | | |

**(5) Command reception [checking the NSF and DIS after transmission of NSS and DCS]**

| Code 1 | Code 2 | Causes |
|---|---|---|
| 50 | 01 | Vertical resolution capability changed after compensation of background color. |
| | | |
| | | |
| | | |

**(6) ID checking**

| Code 1 | Code 2 | Causes |
|---|---|---|
| 63 | 01 | Password plus "lower 4 digits of telephone number" not coincident. |
| 63 | 02 | Password not coincident. |
| 63 | 03 | Polling ID not coincident. |
| 63 | 04 | Entered confidential mail box ID uncoincident with the mail box ID. |
| 63 | 05 | Relay broadcasting ID not coincident. |
| 63 | 06 | Entered retrieval ID uncoincident with that of the mail box ID. |
| | | |
| | | |
| | | |

**(7) DCN reception**

| Code 1 | Code 2 | Causes |
|---|---|---|
| 74 | | DCN received. |
| | | |
| | | |
| | | |

**(8) TCF transmission/reception**

| Code 1 | Code 2 | Causes |
|---|---|---|
| 80 | 01 | Fallback impossible. |
| | | |
| | | |
| | | |
| | | |
| | | |

### (9) Signal isolation

| Code 1 | Code 2 | Causes |
|---|---|---|
| 90 | 01 | Unable to detect video signals and commands within 6 seconds after CFR is transmitted. |
| 90 | 02 | Received PPS containing invalid page count or block count. |
| | | |
| | | |

### (10) Video signal reception

| Code 1 | Code 2 | Causes |
|---|---|---|
| A0 | 03 | Error correction sequence not terminated even at the final transmission speed for fallback. |
| A0 | 11 | Receive buffer empty. (5-second time-out) |
| A0 | 12 | Receive buffer full during operation except receiving into memory. |
| A0 | 13 | Decoding error continued on 500 lines. |
| A0 | 14 | Decoding error continued for 10 seconds. |
| A0 | 15 | Time-out: 5 seconds or more for one-line transmission. |
| A0 | 16 | RTC not found and carrier OFF signal detected for 6 seconds. |
| A0 | 17 | RTC found but no command detected for 60 seconds. |
| A0 | 18 | Receive buffer full during receiving into memory. |
| A8 | 01 | RTN, PIN, or ERR received at the calling terminal.* |
| A9 | 01 | RTN, PIN, or ERR received at the called terminal.* |

* Available in German versions only

### (11) General communications-related

| Code 1 | Code 2 | Causes |
|---|---|---|
| B0 | 02 | Unable to receive the next-page data. |
| B0 | 03 | Unable to receive polling even during turn-around transmission due to call reservation. |
| B0 | 04 | PC interface error. |
| | | |

### (12) Maintenance mode

| Code 1 | Code 2 | Causes |
|---|---|---|
| E0 | 01 | Failed to detect 1300 Hz signal in burn-in operation. |
| E0 | 02 | Failed to detect PB signals in burn-in operation. |
| | | |
| | | |

### (13) Equipment error

| Code 1 | Code 2 | Causes |
|---|---|---|
| FF | X X | Equipment error (For X X, refer to Section 1.1 [ 2 ].) |
| | | |
| | | |

# 2. TROUBLESHOOTING

## 2.1 Introduction

This section gives the service personnel some of the troubleshooting procedures to be followed if an error or malfunction occurs with the facsimile equipment. It is impossible to anticipate all of the possible problems which may occur in future and determine the troubleshooting procedures, so this section covers some sample problems. However, those samples will help service personnel pinpoint and repair other defective elements if he/she analyzes and examines them well.

## 2.2 Precautions

Be sure to observe the following to prevent the secondary troubles from happening:

(1) Always unplug the AC power cord from the outlet when removing the covers and PCBs, adjusting the mechanisms, or conducting continuity testing with a circuit tester.

(2) When disconnecting the connectors, do not pull the lead wires but hold the connector housings.

(3)
- Before handling the PCBs, touch a metal portion of the machine to discharge static electricity charged in your body.
- When repairing the PCBs, handle them with extra care.

After repairing the defective section, be sure to check again if the repaired section works correctly. Also record the troubleshooting procedure so that it would be of use for future trouble occurrence.

## 2.3 Checking prior to Troubleshooting

Prior to proceeding to the troubleshooting procedures given in Subsection 2.4, make the following initial checks:

Environmental conditions

Check that:

(1) The machine is placed on a flat, firm surface.

(2) The machine is used in a clean environment at or near normal room temperature (10°C to 35°C) with normal relative humidity (20 to 80%).

(3) The machine is not exposed to direct sunlight or harmful gases.

Power requirements

Check that:

(1) The power supply specified on the rating plate located on the bottom of the machine is used. The supply voltage stays within the rating ±10%.

(2) Each voltage level on AC input lines and DC lines is correct.

(3) All cables and harnesses are firmly connected.

(4) None of the fuses are blown.

Recording paper

Check that:

(1) A recommended type of recording paper is used.

(2) The recording paper is not dampened.

Ink cartridges

(1) Check that all of four ink cartridges are loaded.

Print head

(1) Check that the print head is installed on the carriage correctly. (Check the dimple contact between the print head PCB and the carriage PCB.)

(2) Repeat the head purging operation several times.

## 2.4 Troubleshooting Procedures

### [ 1 ] Control panel related

| Trouble | Check: |
|---|---|
| (1) LCD shows nothing. | • Panel-main harness<br>• Control panel PCB<br>• Power supply PCB<br>• Main PCB |
| (2) Control panel inoperative. | • Panel-main harness<br>• Control panel PCB<br>• FPC key<br>• Main PCB |

### [ 2 ] Telephone related

| Trouble | Check: |
|---|---|
| (1) No phone call can be made. | • FPC key<br>• Control panel PCB<br>• NCU PCB<br>• Main PCB |
| (2) Speed dialing or one-touch dialing will not work. | • Ordinary dialing function (other than the speed and one-touch dialing)<br>If it works normally, check the main PCB; if not, refer to item (1) above. |
| (3) Speaker silent during on-hook dialing. | • Check speaker. If it works normally, refer to item (1) above. |
| (4) Dial does not switch between tone and pulse. | • Main PCB |

| Trouble | Check: |
|---|---|
| (5) Telephone does not ring. | • Speaker<br>• NCU PCB<br>• Main PCB |

**[ 3 ] Communications related**

| Trouble | Check: |
|---|---|
| (1) No tone is transmitted. | • Main PCB<br>• NCU PCB |

**[ 4 ] Paper/document feeding related**

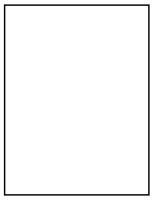
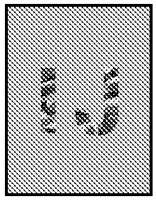
| Trouble | Check: |
|---|---|
| (1) Neither "COPY: PRESS COPY" nor "FAX: NO. & START" message appears although documents are set. | • Sensors by using the maintenance-mode function code 32. (Refer to Chapter V, Section 3.8.)<br>• Document front sensor actuator and document rear sensor actuator<br>• Main PCB |
| (2) Document not fed. | • ADF and its related sections<br>• ADF motor and its harness<br>• Document feed rollers and their related gears<br>• Main PCB |
| (3) Document double feeding | • ADF parts |
| (4) Document jam | • ADF motor |
| (5) Recording paper not fed. | • Paper cassette related gears<br>• Main PCB |
| (6) Recording paper jam | • Paper feeding mechanism<br>• Paper cassette |

**[ 5 ] Print-image related**

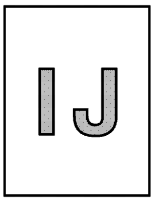
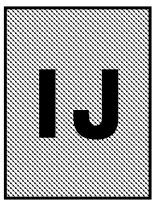
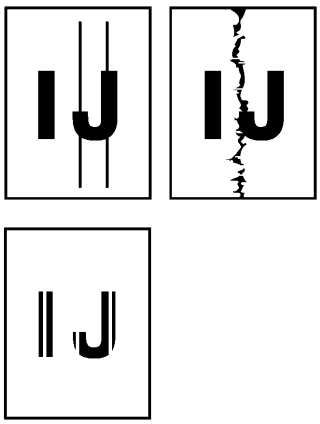
If the received or sent image has any problem, first make a copy with the facsimile equipment.

If the copied image is normal, the problem may be due to the remote terminal; if it is abnormal, proceed to the following checks:

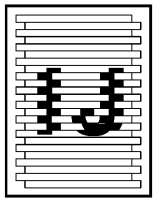
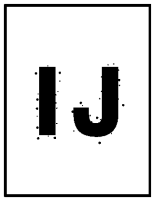
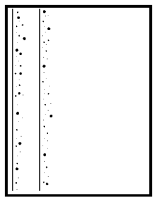
Jobs enclosed by parentheses (♦ ) require the special adjustment jig.

| Trouble | Action to be taken |
|---|---|
| (1) Completely blank  | <u>At the scanner</u><br>Check the following components:<br>- CCD flat cable<br>- CCD unit<br>- Main PCB |
| (2) Random color  | <u>At the printer</u><br>• Check the ink cartridges. If any cartridges have run out of ink, replace them.<br>• Check the dimple contact between the print head PCB and the carriage PCB. Clean it if contaminated.<br>(♦ If the problem persists, replace the carriage ASSY.)<br>• Check the connection of the head flat cables on the main PCB. (♦ If either of those cables is broken or damaged, replace the carriage ASSY.)<br>• Replace the main PCB. |
| (3) All black | <u>At the scanner</u><br>Check the following components:<br>- CCD flat cable<br>- CCD unit<br>- Main PCB<br><u>At the printer</u><br>Check the following components:<br>- Print head unit<br>- Main PCB<br>- Carriage ASSY (♦ Replace the carriage ASSY.) |

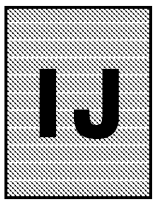
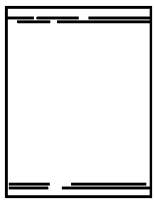
Jobs enclosed by parentheses (♦ ) require the special adjustment jig.

| Trouble | Action to be taken |
|---|---|
| (4) Light<br>  | <u>At the scanner</u><br>Check the following components:<br>- CCD unit<br>- Main PCB<br><u>At the printer</u><br>Check the following components:<br>- Ink cartridges<br>- Print head unit<br>- Main PCB<br>- Power supply PCB |
| (5) Dark<br>  | <u>At the scanner</u><br>Check the following components:<br>- CCD unit<br>- Main PCB<br><u>At the printer</u><br>• For each of the four ink-jet units, perform the head purging operation several times to remove dust or air bubbles from its nozzles. If the problem persists, replace the print head unit.<br>• Check the paper feed-related rollers. (♦ Replacement of the paper feed roller or paper ejection roller requires the special adjustment jig.)<br>• Replace the main PCB and power supply PCB. |
| (6) Black or blurred vertical stripes<br>  | <u>At the scanner</u><br>Check the following components:<br>- CCD unit<br><u>At the printer</u><br>• Check whether paper is in abnormal contact with any other components during ejecting.<br>• Check the encoder strip for stains or scratches. (♦ If the encoder strip is not hooked properly, correct it.) |

Jobs enclosed by parentheses (♦ ) require the special adjustment jig.

| Trouble | Action to be taken |
|---|---|
| (7) Print edges not aligned<br>  | At the printer<br>• Check the alignment of vertical print lines by using the maintenance-mode function code 65. (Refer to Chapter V, Section 3.11).<br>• Check the print head unit.<br>• Check the encoder strip for stains or scratches. (♦ If the encoder strip is not hooked properly, correct it.) |
| (8) Ink splash<br>  <br>  | At the printer<br>• For each of the four ink-jet units, perform the head purging operation several times to remove dust or air bubbles from its nozzles.<br>• Check the ink cartridges. Any of them has run out of ink or the ink viscosity has been increased, so replace it.<br>• Replace the print head unit.<br>• Replace the main PCB<br>• Replace the power supply PCB.<br>• (♦ Adjust the head-platen gap by turning the eccentric bushings on the carriage rail.) |
| (9) Random missing dots<br> | At the printer<br>• For each of the four ink-jet units, perform the head purging operation several times to remove dust or air bubbles from its nozzles.<br>• Check the ink cartridges. If any cartridges have run out of ink, replace them.<br>• Check the dimple contact between the print head PCB and the carriage PCB. Clean it if contaminated.<br>• Replace the print head unit.<br>(♦ If the problem persists, replace the carriage ASSY.)<br>• Check the connection of the head flat cables on the main PCB.<br>(♦ If either of those cables is broken or damaged, replace the carriage ASSY.)<br>• Replace the main PCB<br>• (♦ Adjust the position of the purge unit.)<br>• (♦ Clean the purge cap of the purge unit with the head cleaner. If the wiper or the pump of the purge unit is defective, replace the purge unit.) |

Jobs enclosed by parentheses (♦ ) require the special adjustment jig.

| Trouble | Action to be taken |
|---|---|
| (10) White horizontal streaks   | • For each of the four ink-jet units, perform the head purging operation several times to remove dust or air bubbles from its nozzles.<br>• Replace the print head unit.<br>• Check the paper feed-related rollers. (♦ Replacement of the paper feed roller or paper ejection roller requires the special adjustment jig.) |
| (11) Stained leading edge of recording paper  | <u>At the printer</u><br>• Clean the nozzle ends of the ink-jet units.<br>• (♦ Adjust the head-platen gap by turning the eccentric bushings on the carriage rail.) |

**[ 6 ] PC-driven or video capture-driven printing**

| Trouble | Check: |
|---|---|
| (1) PC-driven printing is impossible. | • Interface with the host computer<br>• PC interface cable<br>• Main PCB<br>• Centronics interface |
| (2) Video capture-driven printing is impossible | • VC connector PCB<br>• Main PCB<br>• Centronics interface |
| (3) Video printing is impossible. | • VC connector PCB<br>• Main PCB |

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SM5CA203
Printed in Japan

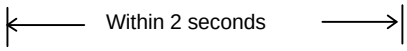
# MFC9100C/MFC760

# Appendix 1.  EEPROM Customizing Codes

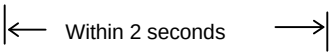
# EEPROM Customizing Codes

This function allows you to customize the EEPROM according to language, function settings, and firmware switch settings.

**n** Operating Procedure




(1) MFC9100C: Press the **Function**, *****, **2**, **8**, **6**, and **4** keys in this order to make the facsimile equipment enter the maintenance mode.




MFC760: Press the **Menu**, *****, **2**, **8**, **6**, and **4** keys in this order to make the facsimile equipment enter the maintenance mode.

The equipment beeps for approx. one second and displays " ▮▮ MAINTENANCE ▮▮▮ " on the LCD.

(2) Press the **7** and **4** keys in this order in the initial stage of the maintenance mode.

The current customizing code (e.g., 1001 in the case of MFC9100C U.S.A. versions) appears.

(3) Enter the desired customizing code (e.g., 0002 in the case of MFC9100C Canadian versions).

The newly entered code appears.

***NOTE:*** *If a wrong 4-digit code is entered, the equipment will malfunction.*

(4) Press the **Start** key.

The equipment saves the setting and returns to the initial stage of the maintenance mode.

If you press the **Stop** key or no keys are pressed for one minute in the above procedure, the equipment stops the procedure and returns to the initial stage of the maintenance mode.

## n EEPROM Customizing Codes List

(1) MFC9100C

| Versions | Model |
|---|---|
| | MFC9100C |
| U.S.A. | 1001 |
| Canada | 0002 |
| Australia | 0006 |
| Asia | |
| Gulf | |
| Indonesia | |
| New Zealand | 0027 |
| Russia | |

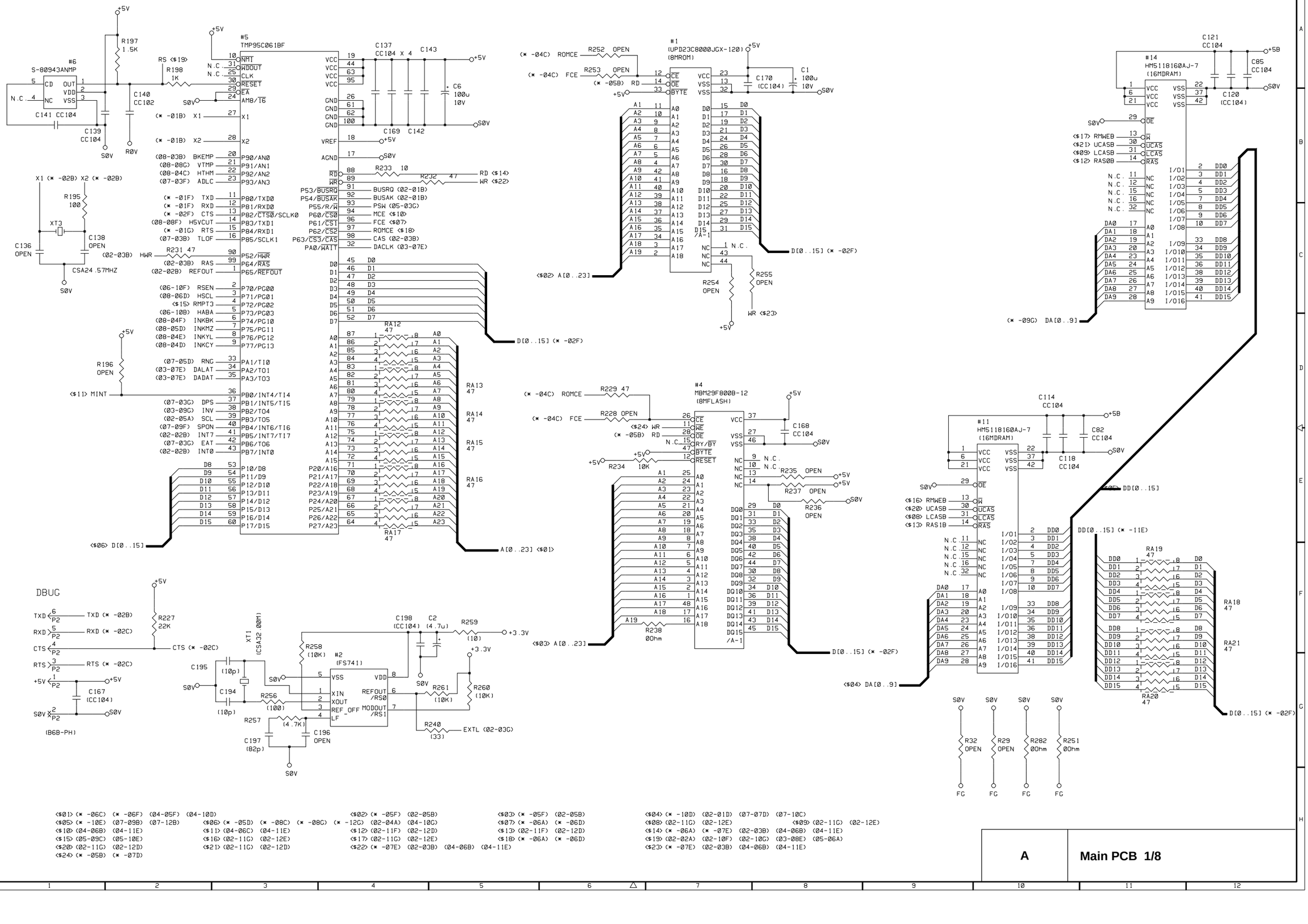
(2) MFC760

| Versions | Model |
|---|---|
| | MFC760 |
| Germany | 0003 |
| U.K. | 0004 |
| France | 0005 |
| Norway | 0007 |
| Belgium | 0008 |
| Netherlands | 0009 |
| Switzerland | 0010 |
| Denmark | 0013 |
| Spain | 0015 |
| Italy | 0016 |
| Sweden | 0026 |

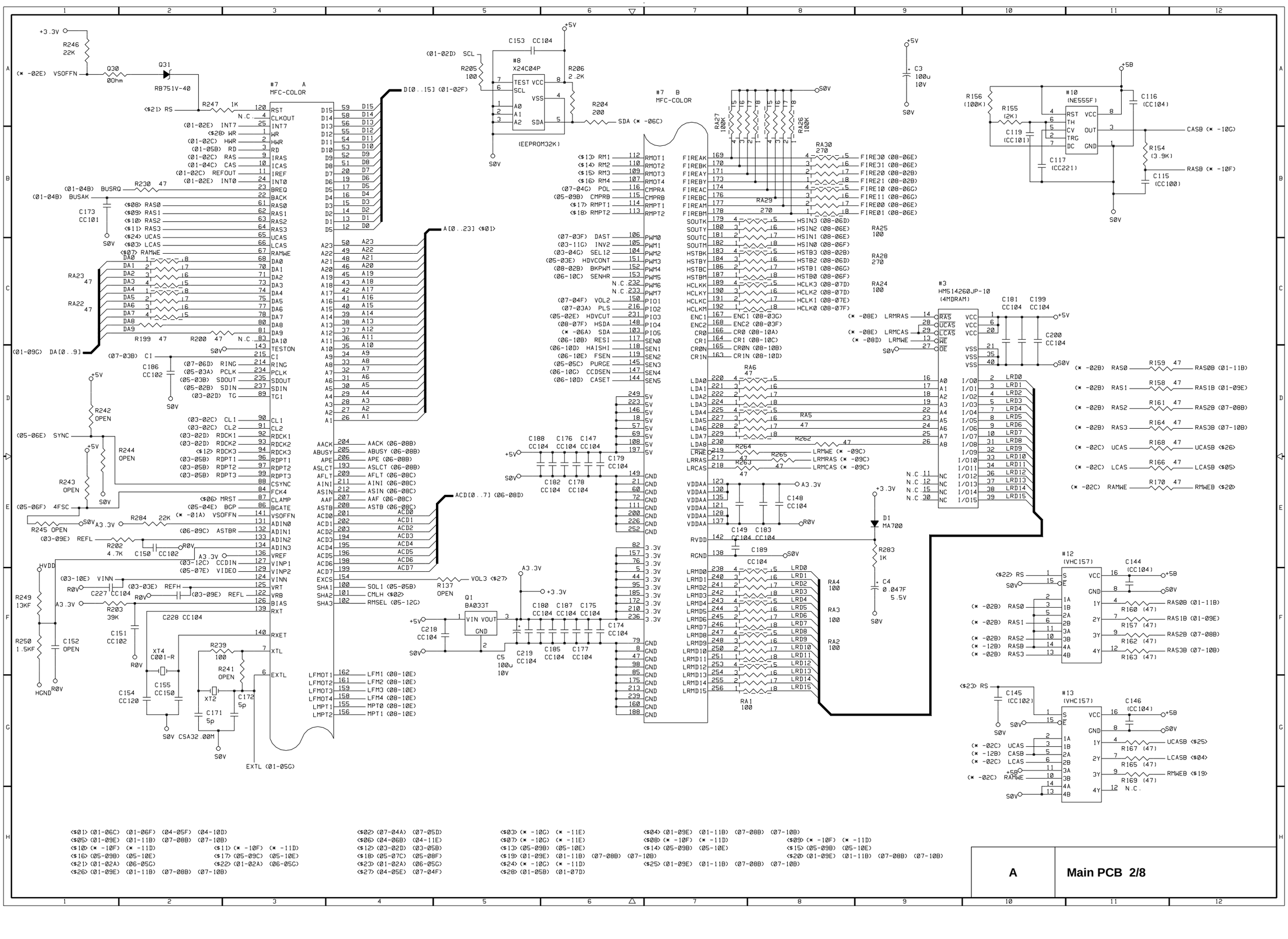
# MFC9100C/MFC760

# Appendix 2. Circuit Diagrams


A. Main PCB
B. Network Control Unit (NCU) PCB
C. Control Panel PCB
D. Power Supply PCB




<$01> (* -06C) (* -06F) (04-05F) (04-10D)
<$02> (* -05F) (02-05B)
<$03> (* -05F) (02-05B)
<$04> (* -10D) (02-01D) (07-07D) (07-10C)
<$05> (* -10E) (07-09B) (07-12B)
<$06> (* -05D) (* -08C) (* -08G) (* -12G) (02-04A) (04-10C)
<$07> (* -06A) (* -06D)
<$08> (02-11G) (02-12E)
<$09> (02-11G) (02-12E)
<$10> (04-06B) (04-11E)
<$11> (04-06C) (04-11E)
<$12> (02-11F) (02-12D)
<$13> (02-11F) (02-12D)
<$14> (* -06A) (* -07E) (02-03B) (04-06B) (04-11E)
<$15> (05-09C) (05-10E)
<$16> (02-11G) (02-12E)
<$17> (02-11G) (02-12E)
<$18> (* -06A) (* -06D)
<$19> (02-02A) (02-10F) (02-10G) (03-08E) (05-06A)
<$20> (02-11C) (02-12D)
<$21> (02-11G) (02-12D)
<$22> (* -07E) (02-03B) (04-06B) (04-11E)
<$23> (* -07E) (02-03B) (04-06B) (04-11E)
<$24> (* -05B) (* -07D)


#7 A MFC-COLOR
#7 B MFC-COLOR
#8 X24C04P
(EEPROM32K)
#10 (NE555F)
#3 HM514260JP-10 (4MDRAM)
#12 (VHC157)
#13 (VHC157)
Q30 0Ohm
Q31 RB751V-40
R246 22K
R247 1K
R230 47
R199 47
R200 47
R242 OPEN
R244 OPEN
R243 OPEN
R245 OPEN
R284 22K
R202 4.7K
R203 39K
R249 13KF
R250 1.5KF
R239 100
R241 OPEN
R205 100
R206 2.2K
R204 200
R137 OPEN
R283 1K
R156 (100K)
R155 (2K)
R154 (3.9K)
R159 47
R158 47
R161 47
R164 47
R168 47
R166 47
R170 47
R160 (47)
R157 (47)
R162 (47)
R163 (47)
R167 (47)
R165 (47)
R169 (47)
C3 100u 10V
C4 0.047F 5.5V
C5 100u 10V
C116 (CC104)
C115 (CC100)
C117 (CC221)
C119 (CC101)
C173 CC101
C186 CC102
C227 CC104
C228 CC104
C151 CC102
C152 OPEN
C154 CC120
C155 CC150
C150 CC102
C153 CC104
C188 CC104
C176 CC104
C147 CC104
C179 CC104
C182 CC104
C178 CC104
C180 CC104
C187 CC104
C175 CC104
C174 CC104
C218 CC104
C219 CC104
C185 CC104
C177 CC104
C149 CC104
C183 CC104
C148 CC104
C189 CC104
C181 CC104
C199 CC104
C200 CC104
C144 (CC104)
C145 (CC102)
C146 (CC104)
C171 5p
C172 5p
XT4 C001-R
XT2 CSA32.00M
Q1 BA033T
VIN VOUT GND
D1 MA700
RA1 100
RA2 100
RA3 100
RA4 100
RA5 47
RA6 47
RA22 47
RA23 47
RA24 100
RA25 100
RA26 100K
RA27 100K
RA28 270
RA29 270
RA30 270
+3.3V
+5V
+5B
S0V
R0V
A3.3V
HVDD
HGND
VSOFFN
SYNC
4FSC
REFL
VINN
REFH
VOL3 (S27)
CASB (* -10G)
RASB (* -10F)
RAMWE
LRMWE (* -09C)
LRMRAS (* -09C)
LRMCAS (* -09C)
EXTL (01-05G)
ACD[0..7] (06-08D)
D[0..15] (01-02F)
A[0..23] (S01)
DA[0..9] (01-09C)
SCL (01-02D)
SDA (* -06C)
BUSRQ (01-04B)
BUSAK (01-04B)
RS (S21)
INT7 (01-02E)
WR (S28)
HWR (01-02C)
RD (01-05B)
RAS (01-02C)
CAS (01-04C)
REFOUT (01-02C)
INT0 (01-02E)
RAS0 (S08)
RAS1 (S09)
RAS2 (S10)
RAS3 (S11)
UCAS (S24)
LCAS (S03)
RAMWE (S07)
CI (07-03B)
RING (07-06D)
PCLK (05-03A)
SDOUT (05-03B)
SDIN (05-02B)
TG (03-02D)
CL1 (03-02C)
CL2 (03-02C)
RDCK1 (03-02D)
RDCK2 (03-02D)
RDCK3 (S12)
RDPT1 (03-05B)
RDPT2 (03-05B)
RDPT3 (03-05B)
CSYNC
FCK4
MRST (S06)
BGP (05-04E)
VSOFFN (* -01A)
ASTBR (06-09C)
ADIN0
ADIN1
ADIN2
ADIN3
VREF
CCDIN (03-12C)
VIDEO (05-07E)
VINP1
VINP2
VINN
VRT
VRB
BIAS
RXT
RXET
XTL
EXTL
TESTON
RM1 (S13)
RM2 (S14)
RM3 (S15)
RM4 (S16)
POL (07-04G)
CMPRB (05-09B)
RMPT1 (S17)
RMPT2 (S18)
DAST (07-03F)
INV2 (03-11G)
SEL12 (03-04C)
HDVCONT (05-03E)
BKPWM (08-02B)
SENHR (06-10C)
VOL2 (07-04F)
PLS (07-03A)
HDVCUT (05-02E)
HSDA (08-07F)
SDA (* -06A)
RESI (06-10B)
HAISHI (06-10D)
FSEN (06-10E)
PURGE (05-05C)
CCDSEN (06-10G)
CASET (06-10D)
SOL1 (05-05B)
CMLH (S02)
RMSEL (05-12G)
AACK (06-08B)
ABUSY (06-08B)
APE (06-08B)
ASLCT (06-08B)
AFLT (06-08C)
AINI (06-08C)
ASIN (06-08C)
AAF (06-08C)
ASTB (06-08C)
LFM1 (08-10E)
LFM2 (08-10E)
LFM3 (08-10E)
LFM4 (08-10E)
MPT0 (08-10E)
MPT1 (08-10E)
FIREAK
FIREBK
FIREAY
FIREBY
FIREAC
FIREBC
FIREAM
FIREBM
SOUTK
SOUTY
SOUTC
SOUTM
HSTBK
HSTBY
HSTBC
HSTBM
HCLKK
HCLKY
HCLKC
HCLKM
ENC1
ENC2
CR0
CR1
CR0N
CR1N
LDA0
LDA1
LDA2
LDA3
LDA4
LDA5
LDA6
LDA7
LDA8
LRWE
LRRAS
LRCAS
VDDAA
RVDD
RGND
LRMD0
LRMD1
LRMD2
LRMD3
LRMD4
LRMD5
LRMD6
LRMD7
LRMD8
LRMD9
LRMD10
LRMD11
LRMD12
LRMD13
LRMD14
LRMD15
LRD0
LRD1
LRD2
LRD3
LRD4
LRD5
LRD6
LRD7
LRD8
LRD9
LRD10
LRD11
LRD12
LRD13
LRD14
LRD15
(S01) (01-06C) (01-06F) (04-05F) (04-10D)
(S02) (07-04A) (07-05D)
(S03) (* -10G) (* -11E)
(S04) (01-09E) (01-11B) (07-08B) (07-10B)
(S05) (01-09E) (01-11B) (07-08B) (07-10B)
(S06) (04-06B) (04-11E)
(S07) (* -10G) (* -11E)
(S08) (* -10F) (* -11D)
(S09) (* -10F) (* -11D)
(S10) (* -10F) (* -11D)
(S11) (* -10F) (* -11D)
(S12) (03-02D) (03-05B)
(S13) (05-09B) (05-10E)
(S14) (05-09B) (05-10E)
(S15) (05-09B) (05-10E)
(S16) (05-09B) (05-10E)
(S17) (05-09C) (05-10E)
(S18) (05-07C) (05-08F)
(S19) (01-09E) (01-11B) (07-08B) (07-10B)
(S20) (01-09E) (01-11B) (07-08B) (07-10B)
(S21) (01-02A) (06-05G)
(S22) (01-02A) (06-05C)
(S23) (01-02A) (06-05G)
(S24) (* -10G) (* -11D)
(S25) (01-09E) (01-11B) (07-08B) (07-10B)
(S26) (01-09E) (01-11B) (07-08B) (07-10B)
(S27) (04-05E) (07-04F)
(S28) (01-05B) (01-07D)
A
Main PCB 2/8

CCD

I24V
I0V
+5V
S0V
R5V
R0V
+12V
A3.3V

VOUT
R42 390
R48 OPEN
Q32 2SC3928
R60 1K

PH2 R102 200 L14 BLM11B421 CL1 (02-03D)
PH1 R105 200 L15 BLM11B421 CL2 (02-03D)
RS R38 200 L4 BLM11B421 RDCK1 (02-02D)
SEL1 R101 200 L13 BLM11B421 RDCK2 <$01>
SEL2 R39 200 L5 BLM11B421 RDCK3 <$02>
TR R100 200 TG (02-03D)

#27 74HC4051
C40 CC104
VDD INHIBIT VEE VSS X
X0 X1 X2 X3 X4 X5 X6 X7
A B C
RDPT2 (02-02E)
RDPT1 (02-02E)
RDCK3 <$04>
RDPT3 (02-02E)

R18 6.2K
R19 4.3K
R50 7.5K
R49 3K
R44 1.8K
R43 1.3K
R55 2.2K
R54 910

#26 74HC4052
INHIBIT VDD VEE VSS X Y
A B
X0 X1 X2 X3 Y0 Y1 Y2 Y3
C46 CC104
(* -02D) RDCK2
<$03> RDCK3
(* -09E) BDOS
(* -09E) RDOS
(* -09E) GDOS
<$05> REF
(* -09E) BGC
(* -09E) RGC
(* -09E) GGC
GC (* -10C)

R20 7.5K
DA3 DAN217

C45 5P
R52 7.5K
#22 AD8051AR
C44 CC104
N.C. N.C. N.C.
R56 5.6K

R73 1K
R65 OPEN
Q10 2SK208
R67 10K
GC (* -05D)
R68 8.2K
REF (* -04D)

L6 0Ohm
L3 0Ohm
C11 10u 16V
C39 CC104

Q11 2SC3928
R71 100
D4 1SS120
CCDIN (02-02E)
R74 1K

IMSA-9604S-22C

R78 10KF
#29 BA10358 2ch
C53 CC104
R82 10KF
(* -09E) REFL
REFH (02-02F)
C52 CC104
C54 CC104
DA5 DAN202U
R76 1KF
R77 1KF
C50 CC104

R34 OPEN 1/10W
Q12 2SB1132
R33 22K
R35 10K
R7 82 1W
Q6 DTC114YK
(02-06C) SEL12
#25 AN78M12 IN OUT COM
C21 10u 16V
C20 3.3u 50V
C26 CC104 50V

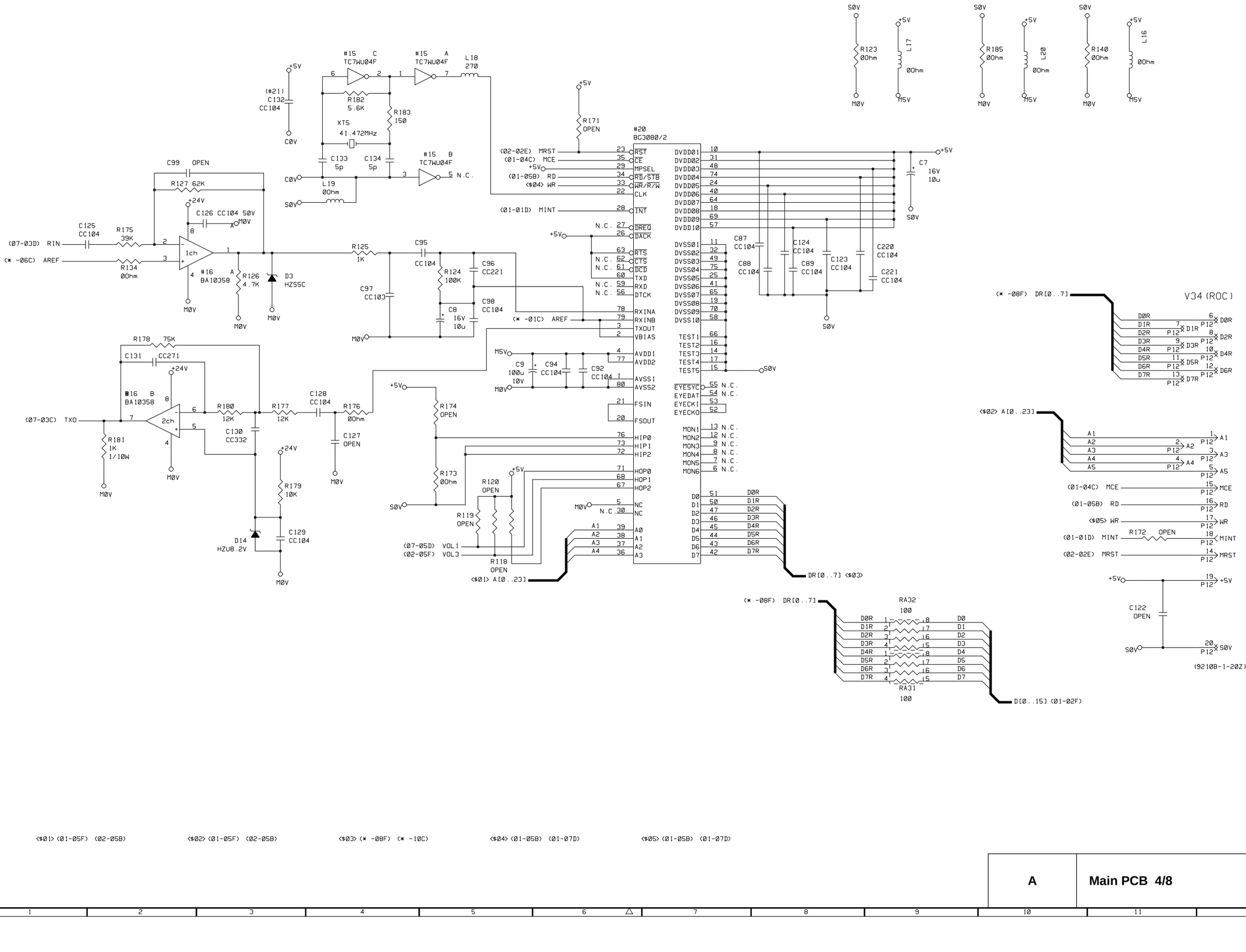
R16 1.5K
HZU4.7V
C29 OPEN
#28 M62359FP
R17 0Ohm
D13
C23 10u 16V
C49 CC104
C22 10u 16V
<$07> RS
(01-04C) DACLK
(01-02D) DADAT
(01-02D) DALAT
VDD VCC VREFU VREFL GND R CLK DI LD DO N.C.
A01 A02 A03 A04 A05 A06 A07 A08 NC NC
RDOS (* -04C)
GDOS (* -04C)
BDOS (* -04C)
RGC (* -04D)
GGC (* -04D)
BGC (* -04D)
REFL <$06>
N.C. N.C.
C51 CC104
VINN (02-01F)
C47 CC104

C225 OPEN
R85 100
#29 BA10358 1ch
R79 1.5K
C55 CC104
R83 1K
R288 OPEN
R290 0Ohm
R289 270
C223 OPEN
C226 CC104
REF (* -04D)

Q2 HAT1024R
C300 CC104 50V
R37 6.8K
R36 8.2K
(01-02D) INV
R75 1K
<$08> RSTT
D6 MA700
Q7 DTC114EK
(02-06C) INV2
R286 6.8K
R287 8.2K
C224 100u 35V
Q9 DTC114EK

<$01> (02-02D) (* -04C)
<$02> (02-02D) (* -04C)
<$03> (* -02D) (* -05B)
<$04> (02-02D) (* -04C)
<$05> (* -08D) (* -08G)
<$06> (02-01E) (02-03F) (* -01E) (* -03F)
<$07> (01-02A) (06-05G)
<$08> (05-05B) (05-08A) (05-10H) (07-03B) (07-03F) (08-09D)

| A | Main PCB 3/8 |
|---|---|




<$01> (01-05F) (02-05B)

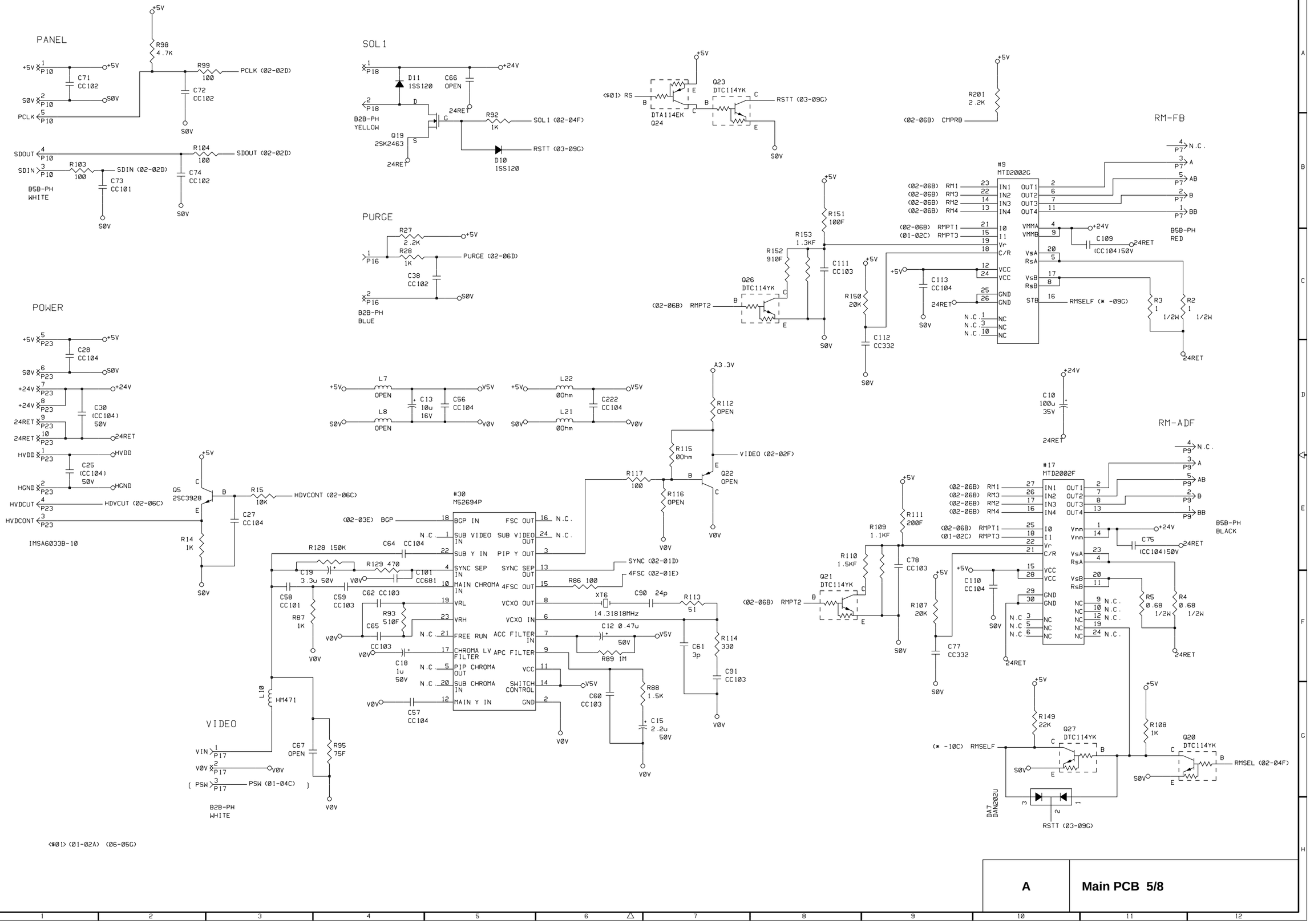
<$02> (01-05F) (02-05B)

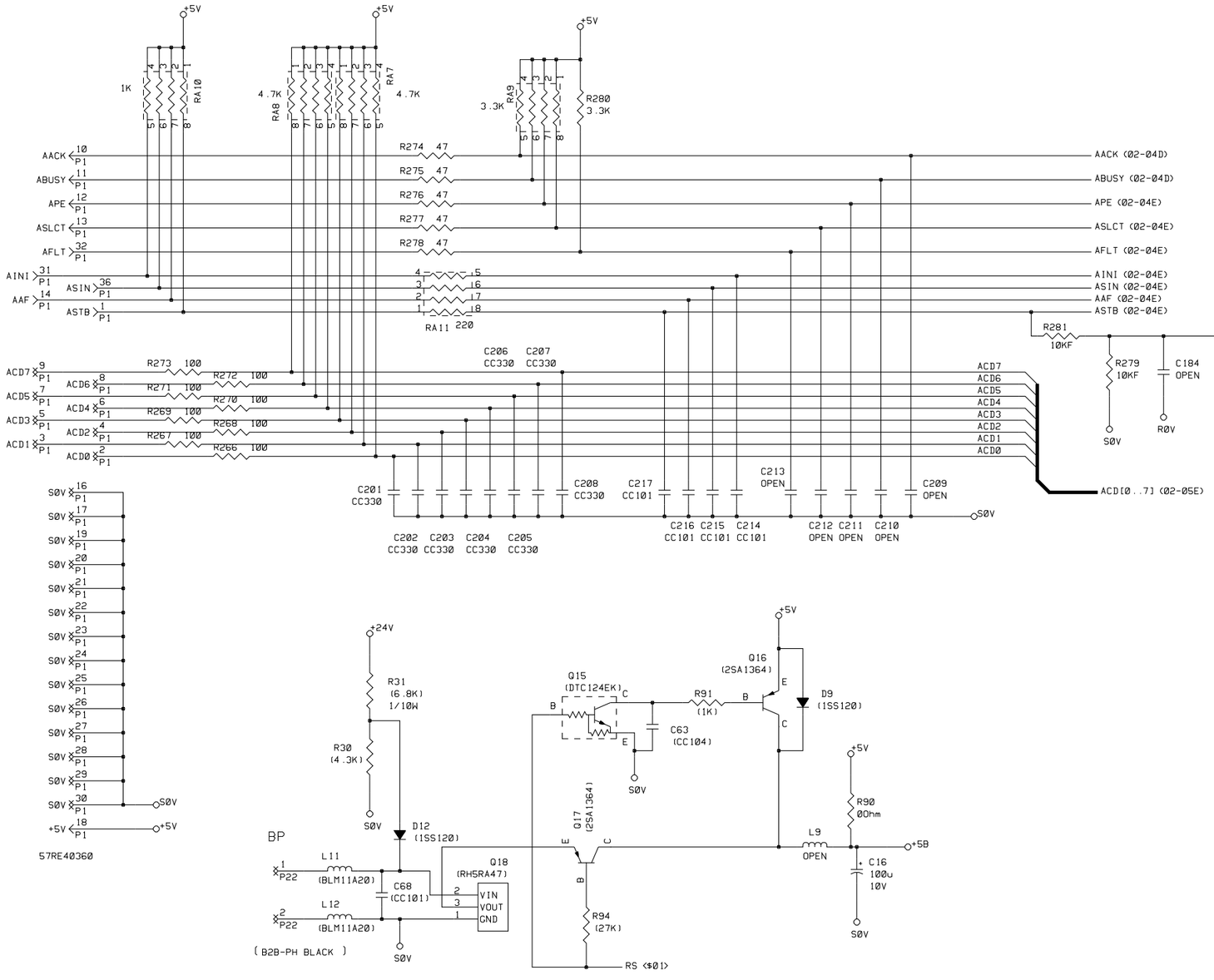
<$03> (* -08F) (* -10C)

<$04> (01-05B) (01-07D)

<$05> (01-05B) (01-07D)

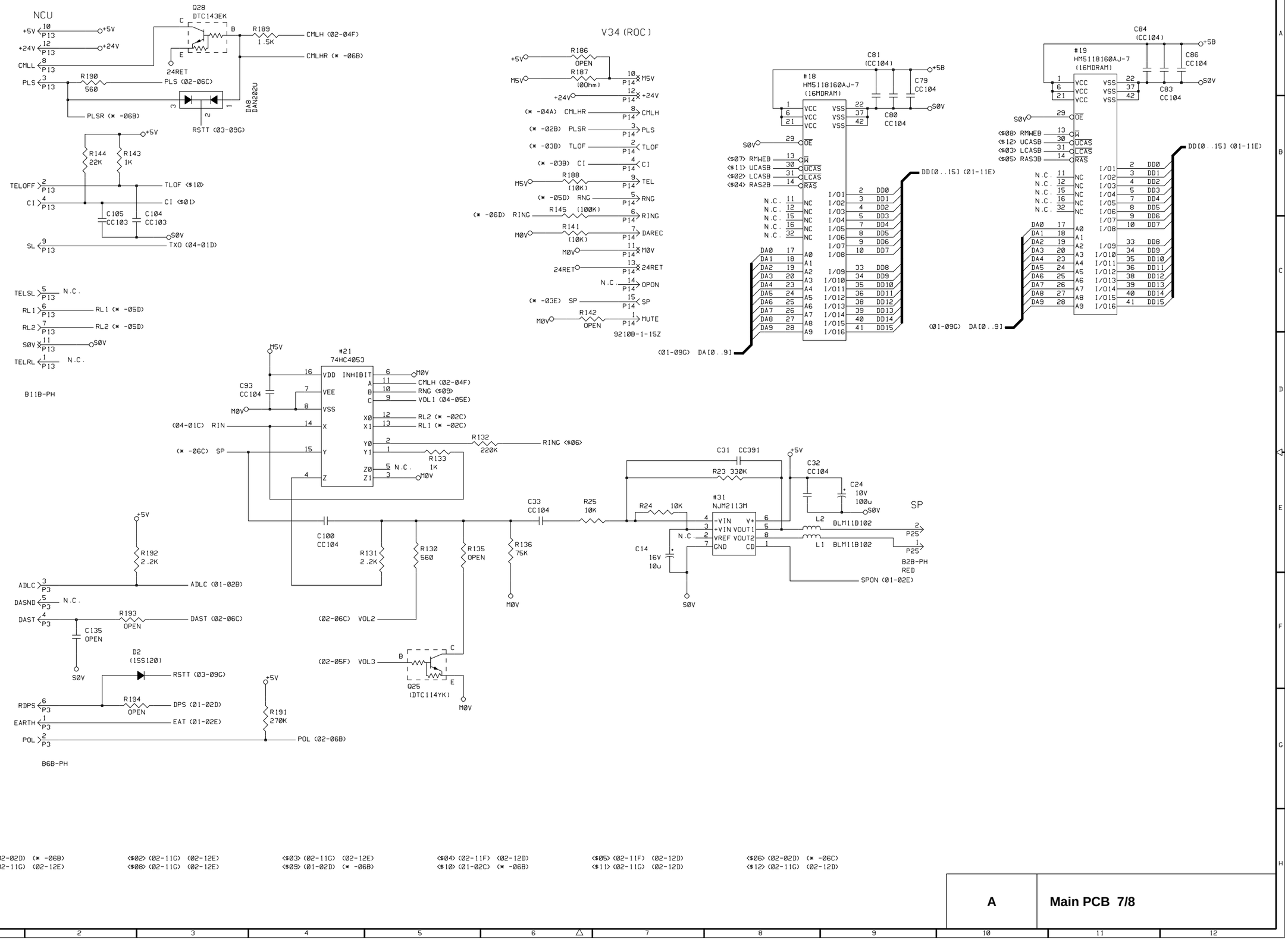
| A | Main PCB 4/8 |
|---|---|

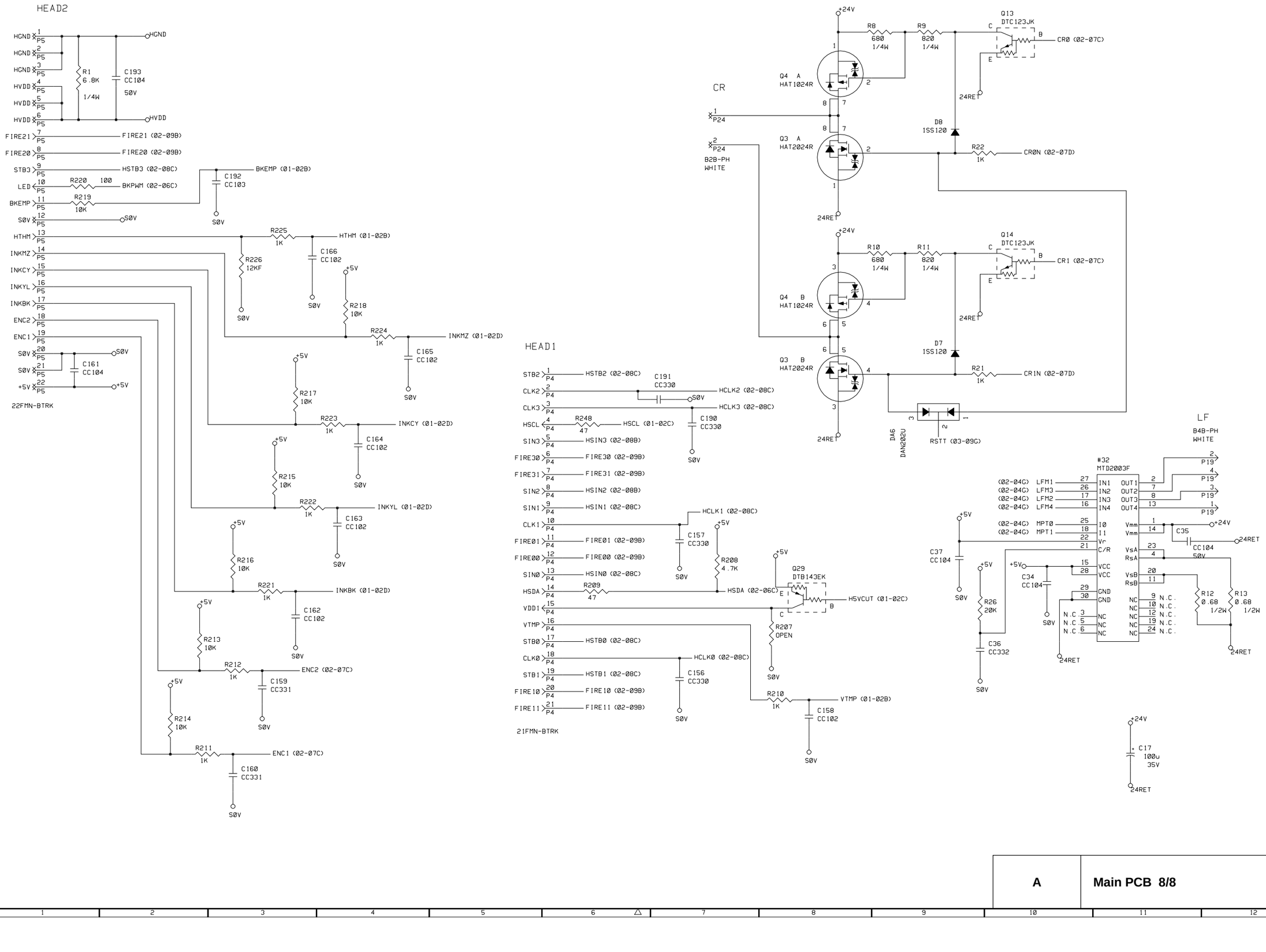

PANEL
R98 4.7K
C71 CC102
C72 CC102
R99 100
PCLK (02-02D)
R104 100
SDOUT (02-02D)
R103 100
SDIN (02-02D)
C73 CC101
C74 CC102
B5B-PH WHITE
SOL 1
D11 1SS120
C66 OPEN
24RET
R92 1K
SOL1 (02-04F)
RSTT (03-09C)
D10 1SS120
Q19 2SK2463
B2B-PH YELLOW
PURGE
R27 2.2K
R28 1K
PURGE (02-06D)
C38 CC102
B2B-PH BLUE
POWER
C28 CC104
C30 (CC104) 50V
C25 (CC104) 50V
HVDD
HGND
HVDCUT (02-06C)
HVDCONT
Q5 2SC3928
R15 10K
C27 CC104
R14 1K
IMSA6033B-10
L7 OPEN
L8 OPEN
C13 10u 16V
C56 CC104
L22 0Ohm
L21 0Ohm
C222 CC104
A3.3V
R112 OPEN
R115 0Ohm
VIDEO (02-02F)
Q22 OPEN
R117 100
R116 OPEN
#30 M52694P
BGP IN
SUB VIDEO IN
SUB Y IN
SYNC SEP IN
MAIN CHROMA IN
VRL
VRH
FREE RUN
CHROMA LV FILTER
PIP CHROMA OUT
SUB CHROMA IN
MAIN Y IN
FSC OUT
SUB VIDEO OUT
PIP Y OUT
SYNC SEP OUT
4FSC OUT
VCXO OUT
VCXO IN
ACC FILTER IN
APC FILTER
VCC
SWITCH CONTROL
GND
R128 150K
C64 CC104
R129 470
C19 3.3u 50V
C101 CC681
C58 CC101
C59 CC103
C62 CC103
R87 1K
R93 510F
C65
C18 1u 50V
CC103
C57 CC104
SYNC (02-01D)
4FSC (02-01E)
R86 100
XT6 14.31818MHz
C90 24p
R113 51
C12 0.47u 50V
R89 1M
C61 3p
R114 330
C91 CC103
R88 1.5K
C60 CC103
C15 2.2u 50V
L10 HM471
C67 OPEN
R95 75F
VIDEO
B2B-PH WHITE
R201 2.2K
CMPRB
Q23 DTC114YK
DTA114EK Q24
RSTT (03-09C)
RM-FB
#9 MTD2002C
R151 100F
R153 1.3KF
R152 910F
C111 CC103
Q26 DTC114YK
RMPT2
R150 20K
C112 CC332
C113 CC104
IN1 IN2 IN3 IN4
OUT1 OUT2 OUT3 OUT4
I0 I1 Vr C/R
VCC VCC
GND GND
VMMA VMMB
VsA RsA VsB RsB
STB
C109 (CC104)50V
B5B-PH RED
RMSELF (* -09G)
R3 1 1/2W
R2 1 1/2W
N.C.
RM-ADF
C10 100u 35V
#17 MTD2002F
R111 200F
R109 1.1KF
R110 1.5KF
Q21 DTC114YK
R107 20K
C78 CC103
C77 CC332
C110 CC104
C75 (CC104)50V
B5B-PH BLACK
R5 0.68 1/2W
R4 0.68 1/2W
R149 22K
Q27 DTC114YK
R108 1K
Q20 DTC114YK
RMSEL (02-04F)
DA7 DAN202U
RSTT (03-09C)
A
Main PCB 5/8




(S01) (02-02A) (02-10F) (02-10G) (03-08E) (05-06A)

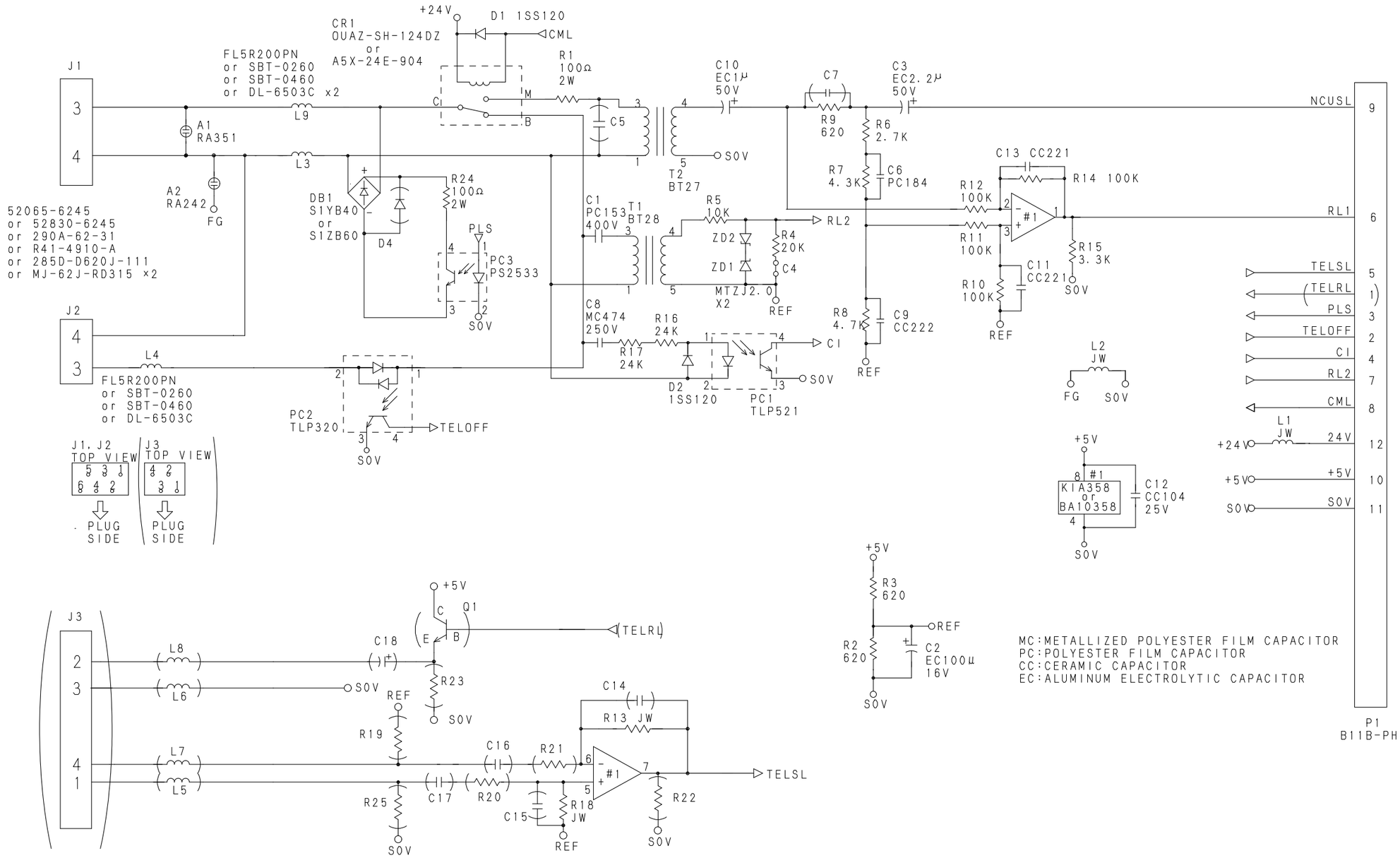
| | |
|---|---|
| A | Main PCB 6/8 |


NCU
Q28
DTC143EK
+5V
+24V
CMLL
PLS
PLSR (✖ -06B)
24RET
R189
1.5K
CMLH (02-04F)
CMLHR (✖ -06B)
R190
560
PLS (02-06C)
DA8
DAN202U
RSTT (03-09G)
R144
22K
R143
1K
TELOFF
TLOF (✖10)
CI
CI (✖01)
C105
CC103
C104
CC103
SL
TXO (04-01D)
TELSL
N.C.
RL1
RL1 (✖ -05D)
RL2
RL2 (✖ -05D)
S0V
TELRL
B11B-PH
V34 (ROC)
R186
OPEN
R187
(0Ohm)
M5V
+24V
CMLH
PLS
TLOF
CI
R188
(10K)
TEL
RNG
R145
(100K)
RING
R141
(10K)
DAREC
M0V
24RET
OPEN
SP
R142
MUTE
9210B-1-15Z
#18
HM5118160AJ-7
(16MDRAM)
C81
(CC104)
C79
CC104
C80
CC104
DD[0..15] (01-11E)
(01-09G) DA[0..9]
#19
HM5118160AJ-7
(16MDRAM)
C84
(CC104)
C86
CC104
C83
CC104
+5B
S0V
RMWEB
UCASB
LCASB
RAS3B
#21
74HC4053
M5V
M0V
C93
CC104
(04-01C) RIN
(✖ -06C) SP
CMLH (02-04F)
RNG (✖09)
VOL1 (04-05E)
RL2 (✖ -02C)
RL1 (✖ -02C)
R132
220K
RING (✖06)
R133
1K
N.C.
C33
CC104
R25
10K
R24
10K
#31
NJM2113M
C31
CC391
R23 330K
C32
CC104
C24
10V
100u
L2
BLM11B102
L1
BLM11B102
SP
B2B-PH
RED
SPON (01-02E)
C14
16V
10u
C100
CC104
R131
2.2K
R130
560
R135
OPEN
R136
75K
R192
2.2K
ADLC
ADLC (01-02B)
DASND
N.C.
DAST
DAST (02-06C)
R193
OPEN
C135
OPEN
D2
(1SS120)
RSTT (03-09G)
RDPS
R194
OPEN
DPS (01-02D)
EARTH
EAT (01-02E)
POL
POL (02-06B)
R191
270K
B6B-PH
(02-06C) VOL2
(02-05F) VOL3
Q25
(DTC114YK)
<$01> (02-02D) (✖ -06B)
<$02> (02-11G) (02-12E)
<$03> (02-11G) (02-12E)
<$04> (02-11F) (02-12D)
<$05> (02-11F) (02-12D)
<$06> (02-02D) (✖ -06C)
<$07> (02-11G) (02-12E)
<$08> (02-11G) (02-12E)
<$09> (01-02D) (✖ -06B)
<$10> (01-02C) (✖ -06B)
<$11> (02-11G) (02-12D)
<$12> (02-11G) (02-12D)
A
Main PCB 7/8

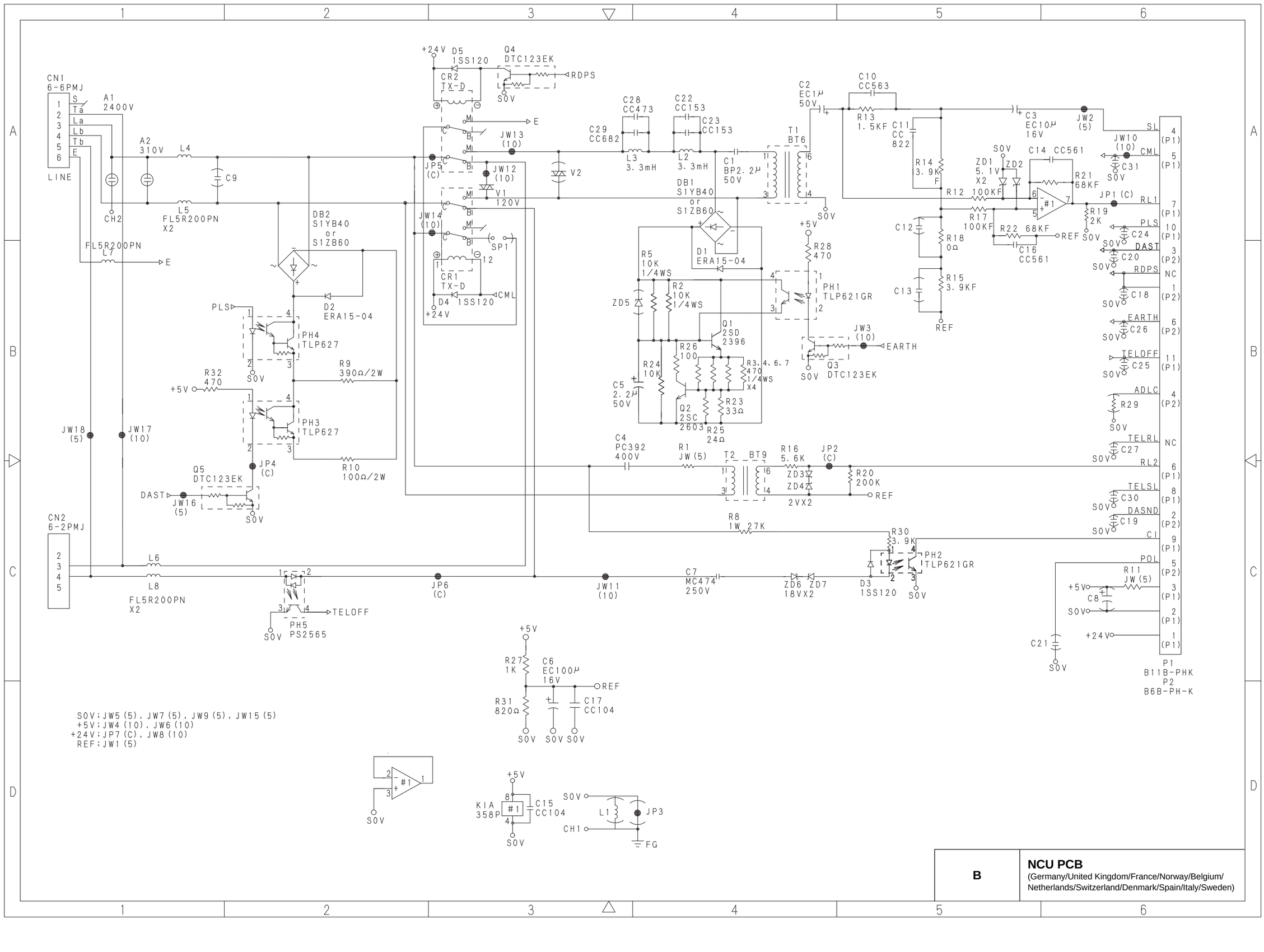

HEAD2
HGND
HVDD
FIRE21
FIRE20
STB3
LED
BKEMP
S0V
HTHM
INKMZ
INKCY
INKYL
INKBK
ENC2
ENC1
+5V
R1 6.8K 1/4W
C193 CC104 50V
R220 100
R219 10K
C192 CC103
R225 1K
R226 12KF
C166 CC102
R218 10K
R224 1K
C165 CC102
C161 CC104
22FMN-BTRK
R217 10K
R223 1K
C164 CC102
R215 10K
R222 1K
C163 CC102
R216 10K
R221 1K
C162 CC102
R213 10K
R212 1K
C159 CC331
R214 10K
R211 1K
C160 CC331
HSTB3 (02-08C)
BKPWM (02-06C)
BKEMP (01-02B)
FIRE21 (02-09B)
FIRE20 (02-09B)
HTHM (01-02B)
INKMZ (01-02D)
INKCY (01-02D)
INKYL (01-02D)
INKBK (01-02D)
ENC2 (02-07C)
ENC1 (02-07C)
HEAD1
STB2
CLK2
CLK3
HSCL
SIN3
FIRE30
FIRE31
SIN2
SIN1
CLK1
FIRE01
FIRE00
SIN0
HSDA
VDD1
VTMP
STB0
CLK0
STB1
FIRE10
FIRE11
C191 CC330
R248 47
C190 CC330
C157 CC330
R208 4.7K
R209 47
C156 CC330
R207 OPEN
R210 1K
C158 CC102
21FMN-BTRK
HSTB2 (02-08C)
HCLK2 (02-08C)
HCLK3 (02-08C)
HSCL (01-02C)
HSIN3 (02-08B)
FIRE30 (02-09B)
FIRE31 (02-09B)
HSIN2 (02-08B)
HSIN1 (02-08C)
HCLK1 (02-08C)
FIRE01 (02-09B)
FIRE00 (02-09B)
HSIN0 (02-08C)
HSDA (02-06C)
HSTB0 (02-08C)
HCLK0 (02-08C)
HSTB1 (02-08C)
FIRE10 (02-09B)
FIRE11 (02-09B)
Q29 DTB143EK
H5VCUT (01-02C)
VTMP (01-02B)
CR
B2B-PH WHITE
Q4 A HAT1024R
Q3 A HAT2024R
Q4 B HAT1024R
Q3 B HAT2024R
+24V
24RET
R8 680 1/4W
R9 820 1/4W
Q13 DTC123JK
CR0 (02-07C)
D8 1SS120
R22 1K
CR0N (02-07D)
R10 680 1/4W
R11 820 1/4W
Q14 DTC123JK
CR1 (02-07C)
D7 1SS120
R21 1K
CR1N (02-07D)
DA6 DAN202U
RSTT (03-09G)
LF
B4B-PH WHITE
#32 MTD2003F
(02-04G) LFM1
(02-04G) LFM3
(02-04G) LFM2
(02-04G) LFM4
(02-04G) MPT0
(02-04G) MPT1
C37 CC104
C34 CC104
C36 CC332
R26 20K
C35 CC104 50V
R12 0.68 1/2W
R13 0.68 1/2W
C17 100u 35V
P19
N.C.

| | |
|---|---|
| A | Main PCB 8/8 |

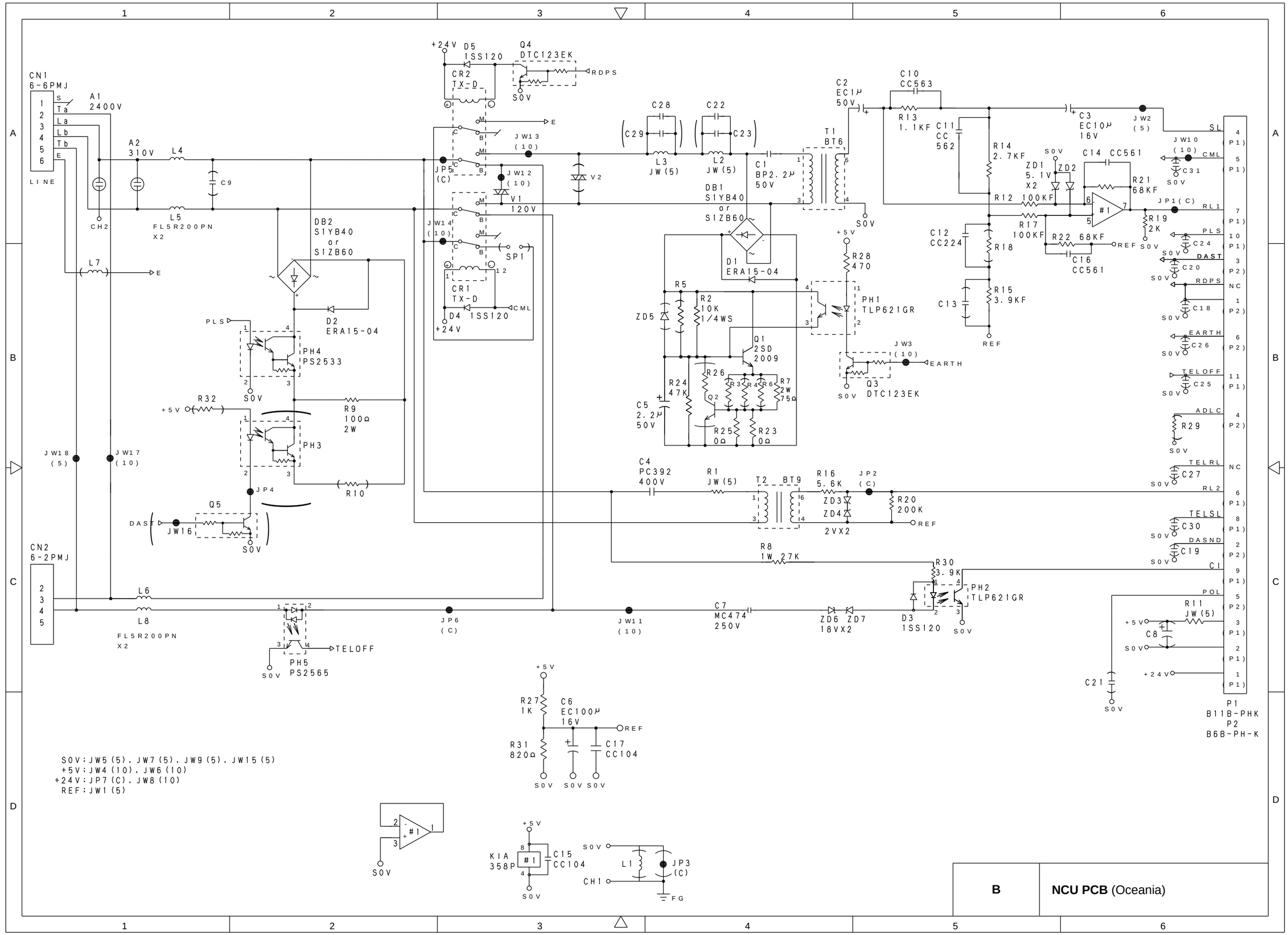
1. 指示ナキ抵抗ノ消費電力ハ1／4Wトスル。
1. UNLESS OTHERWISE SPECIFIED, POWER CONSUMPTION OF RESISTORS IS 1/4W.
2. 指示ナキコンデ゛ンサノ耐圧ハ25V又ハ50Vトスル。
2. UNLESS OTHERWISE SPECIFIED, THE VOLTAGE RESISTANCE OF CAPACITORS IS 25V OR 50V.
3. ( ) 内ノ部品ハ未実装トスル。
3. COMPONENTS IN PARENTHESIS NOT TO BE MOUNTED.




| | |
|---|---|
| B | **NCU PCB** (U.S.A.) |

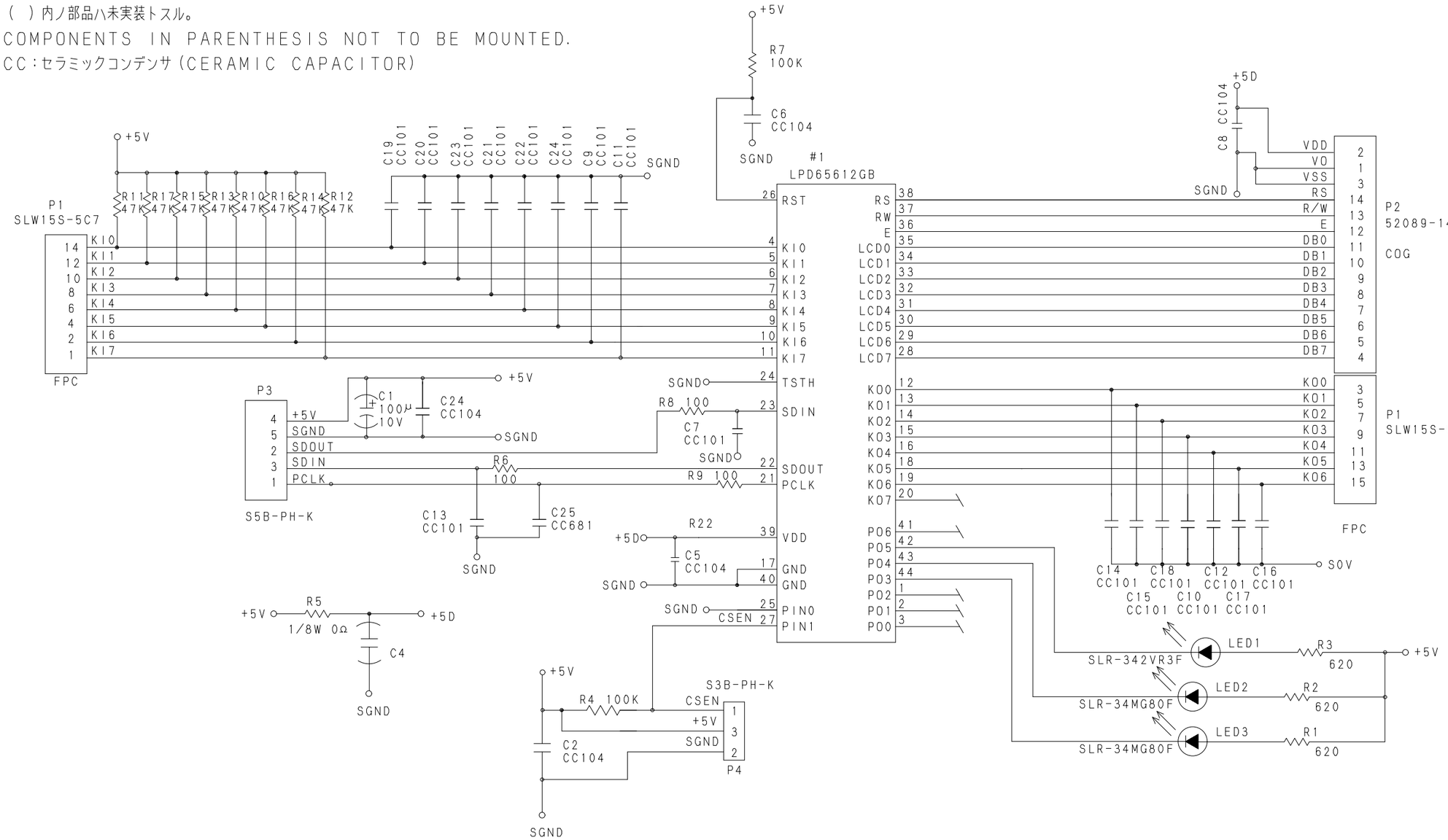



| | |
|---|---|
| B | **NCU PCB**<br>(Germany/United Kingdom/France/Norway/Belgium/Netherlands/Switzerland/Denmark/Spain/Italy/Sweden) |

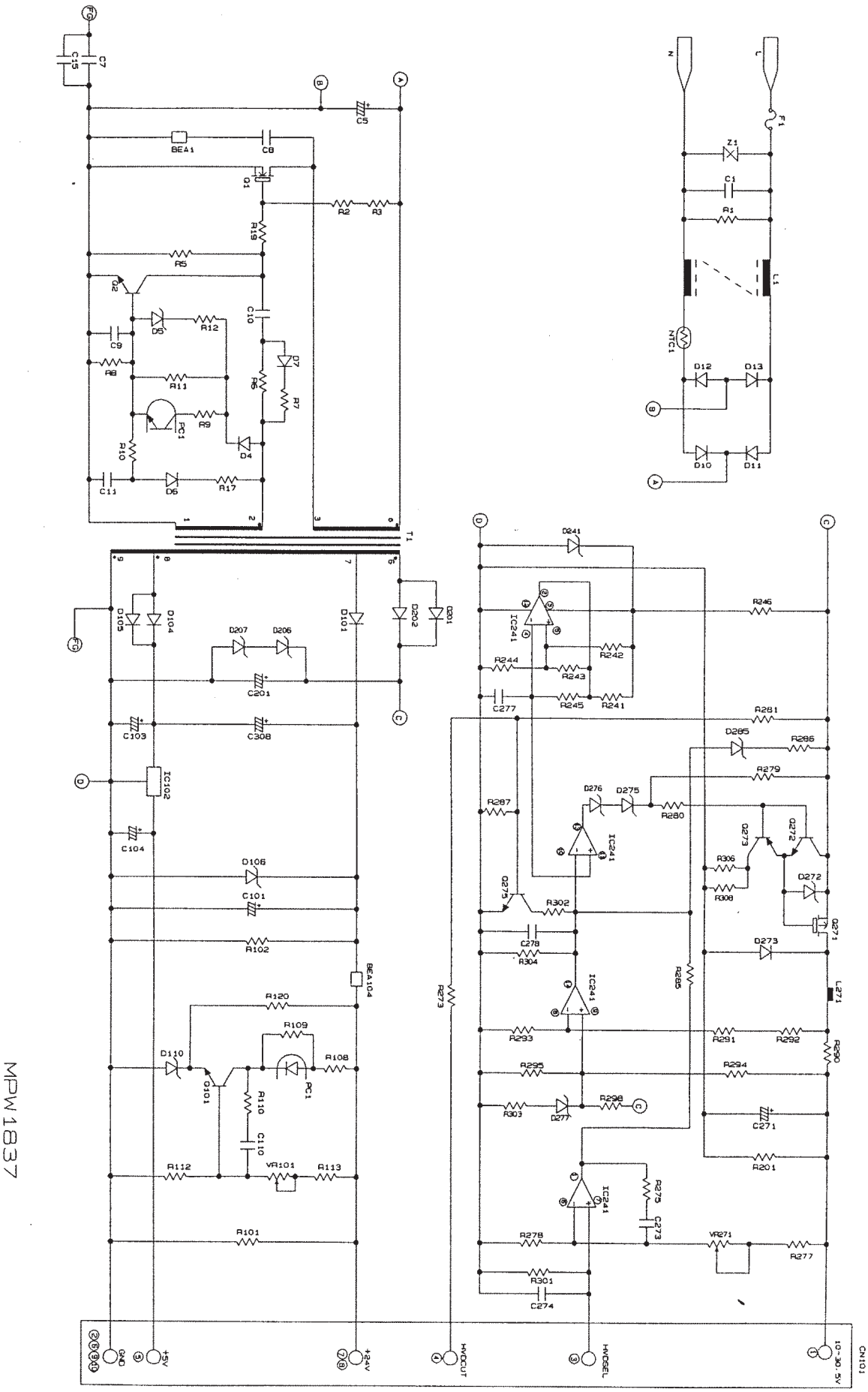


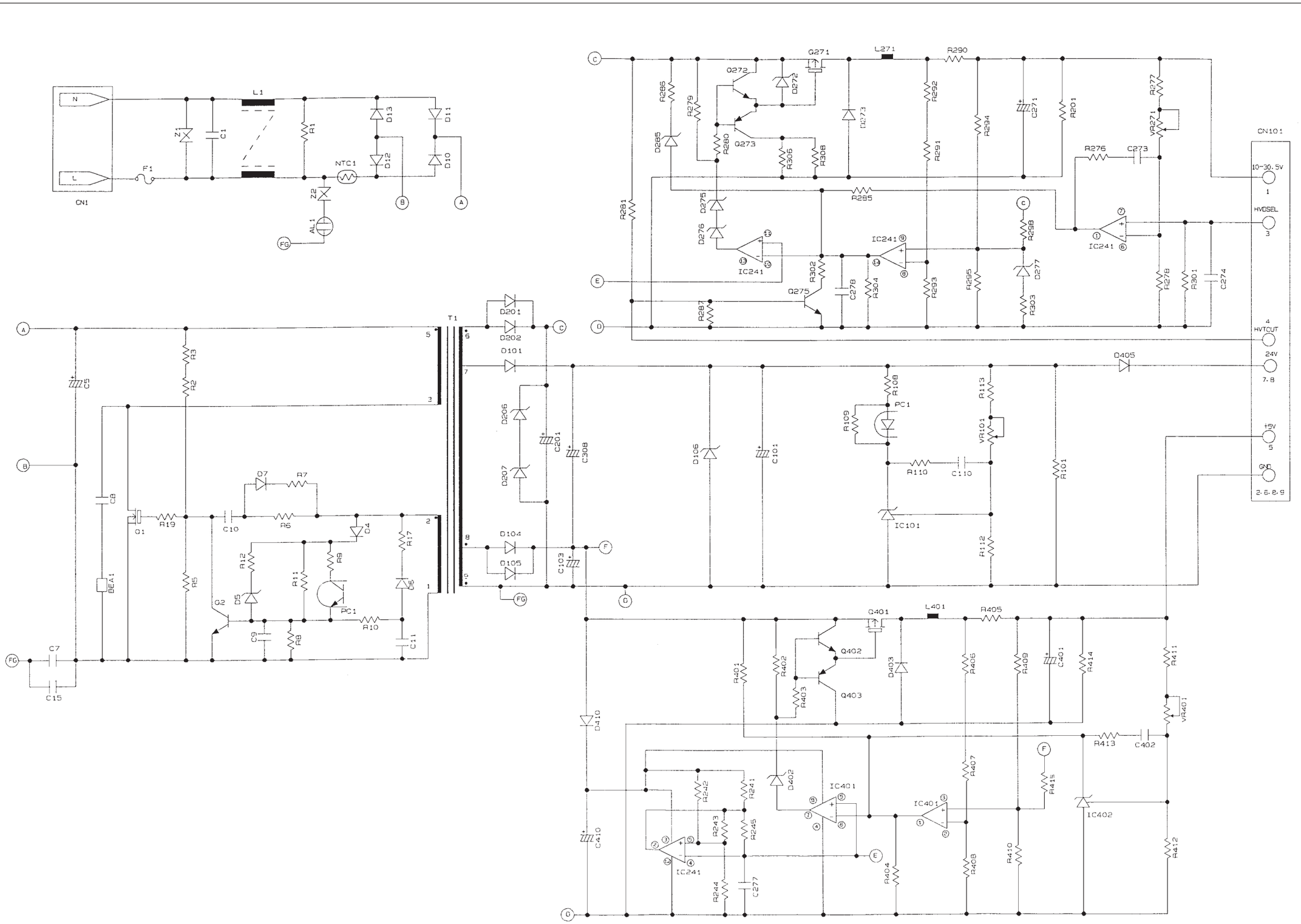

| | |
|---|---|
| B | **NCU PCB** (Oceania) |

1. 指示ナキ抵抗ノ定格電力ハ1／10Wトスル。
1. UNLESS OTHERWISE SPECIFIED, STANDARD ELECTRIC POWER OF RESISTORS IS 1/10W.
2. 指示ナキコンデ゛ンサノ耐圧ハ25V又ハ50Vトスル。
2. UNLESS OTHERWISE SPECIFIED, THE VOLTAGE RESISTANCE OF CAPACITORS IS 25V OR 50V.
3. （ ）内ノ部品ハ未実装トスル。
3. COMPONENTS IN PARENTHESIS NOT TO BE MOUNTED.
4. CC：セラミックコンデンサ（CERAMIC CAPACITOR）




| | |
|---|---|
| C | Control Panel PCB |


MPW1837
D
Power supply
100-120V




| | |
|---|---|
| D | **Power supply 200-240 V** |

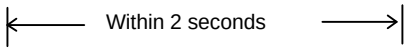
# MFC9100C/MFC760

# Appendix 1.  EEPROM Customizing Codes

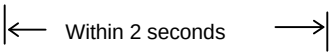
# EEPROM Customizing Codes

This function allows you to customize the EEPROM according to language, function settings, and firmware switch settings.

**n** Operating Procedure




(1) MFC9100C: Press the **Function**, *****, **2**, **8**, **6**, and **4** keys in this order to make the facsimile equipment enter the maintenance mode.




MFC760: Press the **Menu**, *****, **2**, **8**, **6**, and **4** keys in this order to make the facsimile equipment enter the maintenance mode.

The equipment beeps for approx. one second and displays " ▮▮ MAINTENANCE ▮▮▮ " on the LCD.

(2) Press the **7** and **4** keys in this order in the initial stage of the maintenance mode.

The current customizing code (e.g., 1001 in the case of MFC9100C U.S.A. versions) appears.

(3) Enter the desired customizing code (e.g., 0002 in the case of MFC9100C Canadian versions).

The newly entered code appears.

***NOTE:*** *If a wrong 4-digit code is entered, the equipment will malfunction.*

(4) Press the **Start** key.

The equipment saves the setting and returns to the initial stage of the maintenance mode.

If you press the **Stop** key or no keys are pressed for one minute in the above procedure, the equipment stops the procedure and returns to the initial stage of the maintenance mode.

## n EEPROM Customizing Codes List

(1) MFC9100C

| Versions | Model |
|---|---|
| | MFC9100C |
| U.S.A. | 1001 |
| Canada | 0002 |
| Australia | 0006 |
| Asia | |
| Gulf | |
| Indonesia | |
| New Zealand | 0027 |
| Russia | |

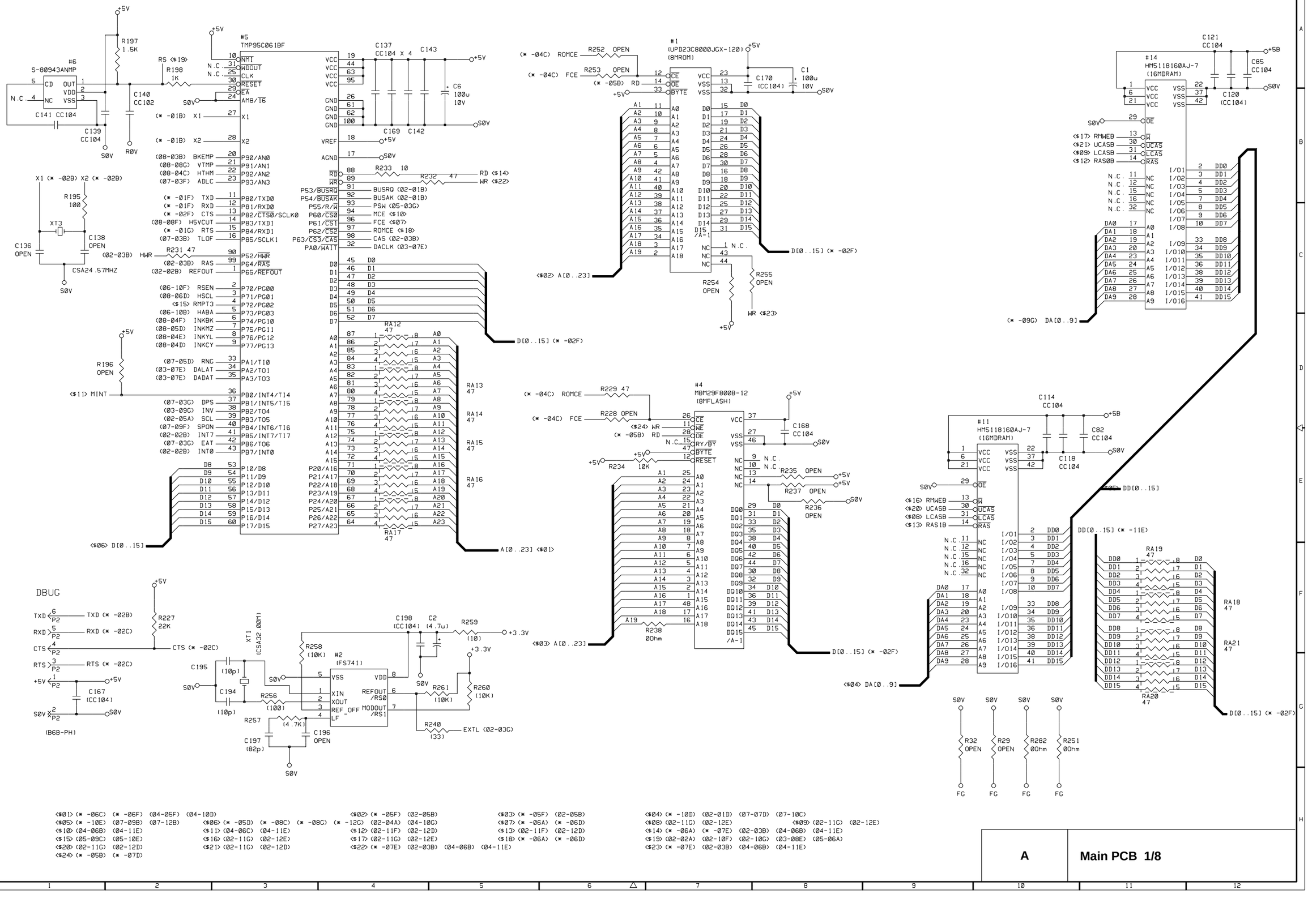
(2) MFC760

| Versions | Model |
|---|---|
| | MFC760 |
| Germany | 0003 |
| U.K. | 0004 |
| France | 0005 |
| Norway | 0007 |
| Belgium | 0008 |
| Netherlands | 0009 |
| Switzerland | 0010 |
| Denmark | 0013 |
| Spain | 0015 |
| Italy | 0016 |
| Sweden | 0026 |

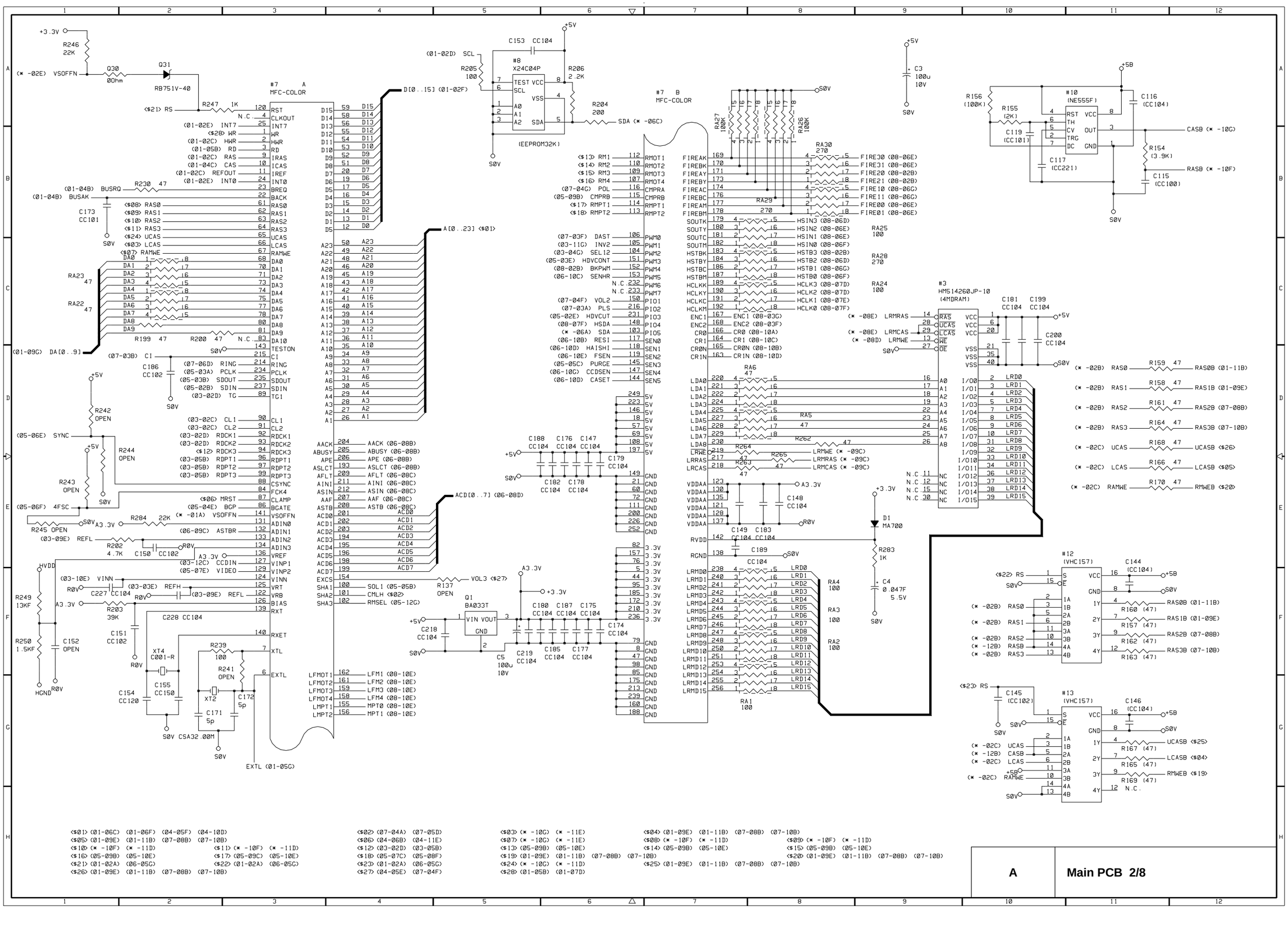
# MFC9100C/MFC760

# Appendix 2. Circuit Diagrams

A. Main PCB
B. Network Control Unit (NCU) PCB
C. Control Panel PCB
D. Power Supply PCB




<$01> (* -06C) (* -06F) (04-05F) (04-10D)
<$02> (* -05F) (02-05B)
<$03> (* -05F) (02-05B)
<$04> (* -10D) (02-01D) (07-07D) (07-10C)
<$05> (* -10E) (07-09B) (07-12B)
<$06> (* -05D) (* -08C) (* -08G) (* -12G) (02-04A) (04-10C)
<$07> (* -06A) (* -06D)
<$08> (02-11G) (02-12E)
<$09> (02-11G) (02-12E)
<$10> (04-06B) (04-11E)
<$11> (04-06C) (04-11E)
<$12> (02-11F) (02-12D)
<$13> (02-11F) (02-12D)
<$14> (* -06A) (* -07E) (02-03B) (04-06B) (04-11E)
<$15> (05-09C) (05-10E)
<$16> (02-11G) (02-12E)
<$17> (02-11G) (02-12E)
<$18> (* -06A) (* -06D)
<$19> (02-02A) (02-10F) (02-10G) (03-08E) (05-06A)
<$20> (02-11C) (02-12D)
<$21> (02-11G) (02-12D)
<$22> (* -07E) (02-03B) (04-06B) (04-11E)
<$23> (* -07E) (02-03B) (04-06B) (04-11E)
<$24> (* -05B) (* -07D)


#7 A MFC-COLOR
#7 B MFC-COLOR
#8 X24C04P
(EEPROM32K)
#10 (NE555F)
#3 HM514260JP-10 (4MDRAM)
#12 (VHC157)
#13 (VHC157)
Q30 0Ohm
Q31 RB751V-40
R246 22K
R247 1K
R230 47
R199 47
R200 47
R242 OPEN
R244 OPEN
R243 OPEN
R245 OPEN
R284 22K
R202 4.7K
R203 39K
R249 13KF
R250 1.5KF
R239 100
R241 OPEN
R205 100
R206 2.2K
R204 200
R137 OPEN
R283 1K
R156 (100K)
R155 (2K)
R154 (3.9K)
R159 47
R158 47
R161 47
R164 47
R168 47
R166 47
R170 47
R160 (47)
R157 (47)
R162 (47)
R163 (47)
R167 (47)
R165 (47)
R169 (47)
C3 100u 10V
C4 0.047F 5.5V
C5 100u 10V
C116 (CC104)
C115 (CC100)
C117 (CC221)
C119 (CC101)
C173 CC101
C186 CC102
C227 CC104
C228 CC104
C151 CC102
C152 OPEN
C154 CC120
C155 CC150
C150 CC102
C153 CC104
C188 CC104
C176 CC104
C147 CC104
C179 CC104
C182 CC104
C178 CC104
C180 CC104
C187 CC104
C175 CC104
C174 CC104
C218 CC104
C219 CC104
C185 CC104
C177 CC104
C149 CC104
C183 CC104
C148 CC104
C189 CC104
C181 CC104
C199 CC104
C200 CC104
C144 (CC104)
C145 (CC102)
C146 (CC104)
C171 5p
C172 5p
XT4 C001-R
XT2 CSA32.00M
Q1 BA033T
VIN VOUT GND
D1 MA700
RA1 100
RA2 100
RA3 100
RA4 100
RA5 47
RA6 47
RA22 47
RA23 47
RA24 100
RA25 100
RA26 100K
RA27 100K
RA28 270
RA29 270
RA30 270
+3.3V
+5V
+5B
S0V
R0V
A3.3V
HVDD
HGND
VSOFFN
SYNC
4FSC
REFL
VINN
REFH
VOL3 (S27)
CASB (* -10G)
RASB (* -10F)
RAMWE
LRMWE (* -09C)
LRMRAS (* -09C)
LRMCAS (* -09C)
EXTL (01-05G)
ACD[0..7] (06-08D)
D[0..15] (01-02F)
A[0..23] (S01)
DA[0..9] (01-09C)
SCL (01-02D)
SDA (* -06C)
BUSRQ (01-04B)
BUSAK (01-04B)
RS (S21)
INT7 (01-02E)
WR (S28)
HWR (01-02C)
RD (01-05B)
RAS (01-02C)
CAS (01-04C)
REFOUT (01-02C)
INT0 (01-02E)
RAS0 (S08)
RAS1 (S09)
RAS2 (S10)
RAS3 (S11)
UCAS (S24)
LCAS (S03)
RAMWE (S07)
CI (07-03B)
RING (07-06D)
PCLK (05-03A)
SDOUT (05-03B)
SDIN (05-02B)
TG (03-02D)
CL1 (03-02C)
CL2 (03-02C)
RDCK1 (03-02D)
RDCK2 (03-02D)
RDCK3 (S12)
RDPT1 (03-05B)
RDPT2 (03-05B)
RDPT3 (03-05B)
CSYNC
FCK4
MRST (S06)
BGP (05-04E)
VSOFFN (* -01A)
ASTBR (06-09C)
ADIN0
ADIN1
ADIN2
ADIN3
VREF
CCDIN (03-12C)
VIDEO (05-07E)
VINP1
VINP2
VINN
VRT
VRB
BIAS
RXT
RXET
XTL
EXTL
TESTON
RM1 (S13)
RM2 (S14)
RM3 (S15)
RM4 (S16)
POL (07-04G)
CMPRB (05-09B)
RMPT1 (S17)
RMPT2 (S18)
DAST (07-03F)
INV2 (03-11G)
SEL12 (03-04C)
HDVCONT (05-03E)
BKPWM (08-02B)
SENHR (06-10C)
VOL2 (07-04F)
PLS (07-03A)
HDVCUT (05-02E)
HSDA (08-07F)
SDA (* -06A)
RESI (06-10B)
HAISHI (06-10D)
FSEN (06-10E)
PURGE (05-05C)
CCDSEN (06-10G)
CASET (06-10D)
SOL1 (05-05B)
CMLH (S02)
RMSEL (05-12G)
AACK (06-08B)
ABUSY (06-08B)
APE (06-08B)
ASLCT (06-08B)
AFLT (06-08C)
AINI (06-08C)
ASIN (06-08C)
AAF (06-08C)
ASTB (06-08C)
LFM1 (08-10E)
LFM2 (08-10E)
LFM3 (08-10E)
LFM4 (08-10E)
MPT0 (08-10E)
MPT1 (08-10E)
FIREAK
FIREBK
FIREAY
FIREBY
FIREAC
FIREBC
FIREAM
FIREBM
SOUTK
SOUTY
SOUTC
SOUTM
HSTBK
HSTBY
HSTBC
HSTBM
HCLKK
HCLKY
HCLKC
HCLKM
ENC1
ENC2
CR0
CR1
CR0N
CR1N
LDA0
LDA1
LDA2
LDA3
LDA4
LDA5
LDA6
LDA7
LDA8
LRWE
LRRAS
LRCAS
VDDAA
RVDD
RGND
LRMD0
LRMD1
LRMD2
LRMD3
LRMD4
LRMD5
LRMD6
LRMD7
LRMD8
LRMD9
LRMD10
LRMD11
LRMD12
LRMD13
LRMD14
LRMD15
LRD0
LRD1
LRD2
LRD3
LRD4
LRD5
LRD6
LRD7
LRD8
LRD9
LRD10
LRD11
LRD12
LRD13
LRD14
LRD15
(S01) (01-06C) (01-06F) (04-05F) (04-10D)
(S02) (07-04A) (07-05D)
(S03) (* -10G) (* -11E)
(S04) (01-09E) (01-11B) (07-08B) (07-10B)
(S05) (01-09E) (01-11B) (07-08B) (07-10B)
(S06) (04-06B) (04-11E)
(S07) (* -10G) (* -11E)
(S08) (* -10F) (* -11D)
(S09) (* -10F) (* -11D)
(S10) (* -10F) (* -11D)
(S11) (* -10F) (* -11D)
(S12) (03-02D) (03-05B)
(S13) (05-09B) (05-10E)
(S14) (05-09B) (05-10E)
(S15) (05-09B) (05-10E)
(S16) (05-09B) (05-10E)
(S17) (05-09C) (05-10E)
(S18) (05-07C) (05-08F)
(S19) (01-09E) (01-11B) (07-08B) (07-10B)
(S20) (01-09E) (01-11B) (07-08B) (07-10B)
(S21) (01-02A) (06-05G)
(S22) (01-02A) (06-05C)
(S23) (01-02A) (06-05G)
(S24) (* -10G) (* -11D)
(S25) (01-09E) (01-11B) (07-08B) (07-10B)
(S26) (01-09E) (01-11B) (07-08B) (07-10B)
(S27) (04-05E) (07-04F)
(S28) (01-05B) (01-07D)
A
Main PCB 2/8

CCD

I24V
I0V
+5V
S0V
R5V
R0V
+12V
A3.3V

VOUT
R42 390
R48 OPEN
Q32 2SC3928
R60 1K

PH2 R102 200 L14 BLM11B421 CL1 (02-03D)
PH1 R105 200 L15 BLM11B421 CL2 (02-03D)
RS R38 200 L4 BLM11B421 RDCK1 (02-02D)
SEL1 R101 200 L13 BLM11B421 RDCK2 <$01>
SEL2 R39 200 L5 BLM11B421 RDCK3 <$02>
TR R100 200 TG (02-03D)

#27 74HC4051
C40 CC104
VDD INHIBIT VEE VSS X
X0 X1 X2 X3 X4 X5 X6 X7
A B C
RDPT2 (02-02E)
RDPT1 (02-02E)
RDCK3 <$04>
RDPT3 (02-02E)

R18 6.2K
R19 4.3K
R50 7.5K
R49 3K
R44 1.8K
R43 1.3K
R55 2.2K
R54 910

#26 74HC4052
INHIBIT VDD VEE VSS X Y
A B
X0 X1 X2 X3 Y0 Y1 Y2 Y3
C46 CC104
(* -02D) RDCK2
<$03> RDCK3
(* -09E) BDOS
(* -09E) RDOS
(* -09E) GDOS
<$05> REF
(* -09E) BGC
(* -09E) RGC
(* -09E) GGC
GC (* -10C)

R20 7.5K
DA3 DAN217

C45 5P
R52 7.5K
#22 AD8051AR
C44 CC104
N.C. N.C. N.C.
R56 5.6K

R73 1K
R65 OPEN
Q10 2SK208
R67 10K
GC (* -05D)
R68 8.2K
REF (* -04D)

L6 0Ohm
L3 0Ohm
C11 10u 16V
C39 CC104

Q11 2SC3928
R71 100
D4 1SS120
CCDIN (02-02E)
R74 1K

IMSA-9604S-22C

R78 10KF
#29 BA10358 2ch
C53 CC104
R82 10KF
(* -09E) REFL
REFH (02-02F)
C52 CC104
C54 CC104
DA5 DAN202U
R76 1KF
R77 1KF
C50 CC104

R34 OPEN 1/10W
Q12 2SB1132
R33 22K
R35 10K
R7 82 1W
Q6 DTC114YK
(02-06C) SEL12
#25 AN78M12 IN OUT COM
C21 10u 16V
C20 3.3u 50V
C26 CC104 50V

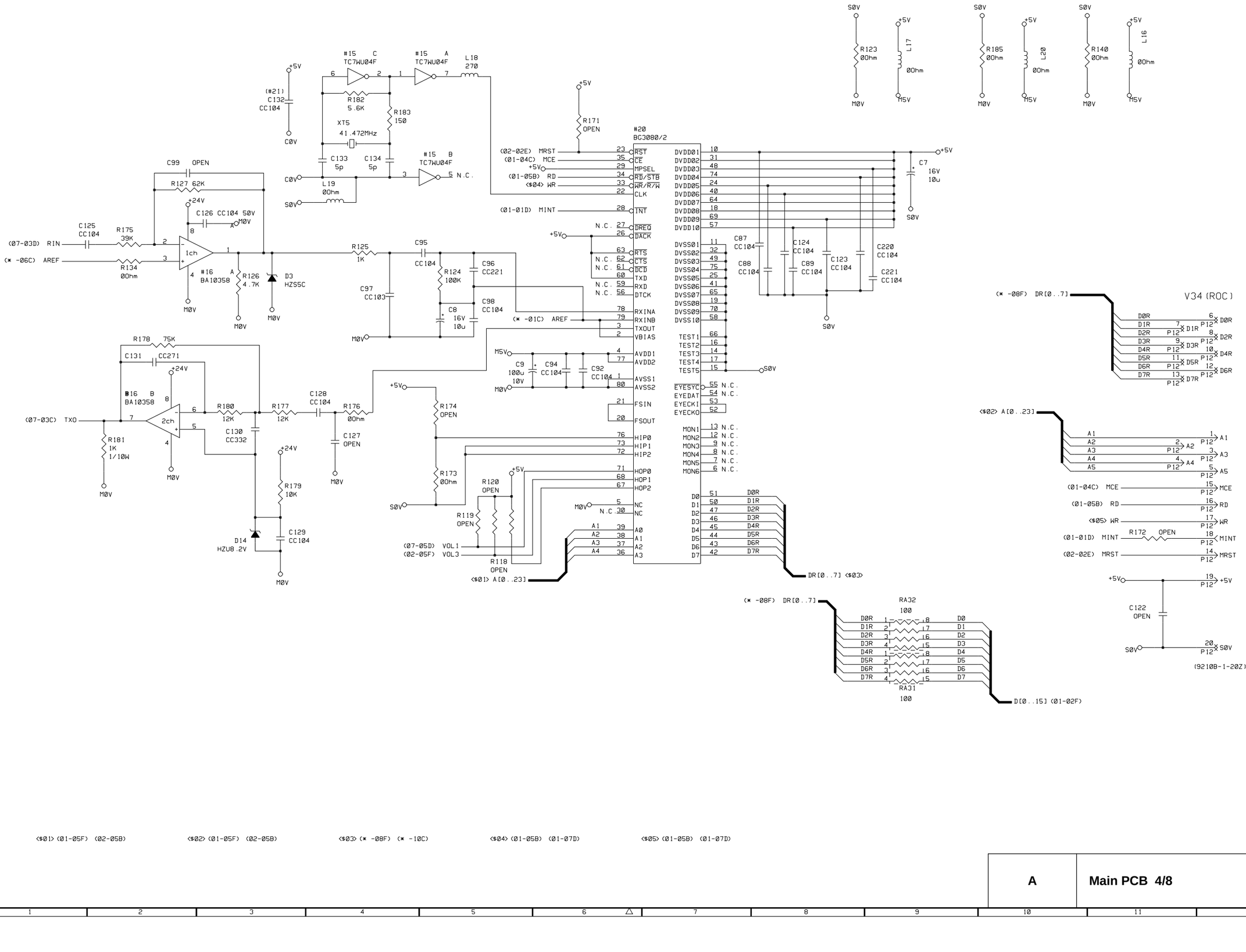
R16 1.5K
HZU4.7V
C29 OPEN
#28 M62359FP
R17 0Ohm
D13
C23 10u 16V
C49 CC104
C22 10u 16V
<$07> RS
(01-04C) DACLK
(01-02D) DADAT
(01-02D) DALAT
VDD VCC VREFU VREFL GND R CLK DI LD DO N.C.
A01 A02 A03 A04 A05 A06 A07 A08 NC NC
RDOS (* -04C)
GDOS (* -04C)
BDOS (* -04C)
RGC (* -04D)
GGC (* -04D)
BGC (* -04D)
REFL <$06>
N.C. N.C.
C51 CC104
VINN (02-01F)
C47 CC104

C225 OPEN
R85 100
#29 BA10358 1ch
R79 1.5K
C55 CC104
R83 1K
R288 OPEN
R290 0Ohm
R289 270
C223 OPEN
C226 CC104
REF (* -04D)

Q2 HAT1024R
C300 CC104 50V
R37 6.8K
R36 8.2K
(01-02D) INV
R75 1K
<$08> RSTT
D6 MA700
Q7 DTC114EK
(02-06C) INV2
R286 6.8K
R287 8.2K
C224 100u 35V
Q9 DTC114EK

<$01> (02-02D) (* -04C)
<$02> (02-02D) (* -04C)
<$03> (* -02D) (* -05B)
<$04> (02-02D) (* -04C)
<$05> (* -08D) (* -08G)
<$06> (02-01E) (02-03F) (* -01E) (* -03F)
<$07> (01-02A) (06-05G)
<$08> (05-05B) (05-08A) (05-10H) (07-03B) (07-03F) (08-09D)

| A | Main PCB 3/8 |
|---|---|




<$01> (01-05F) (02-05B)

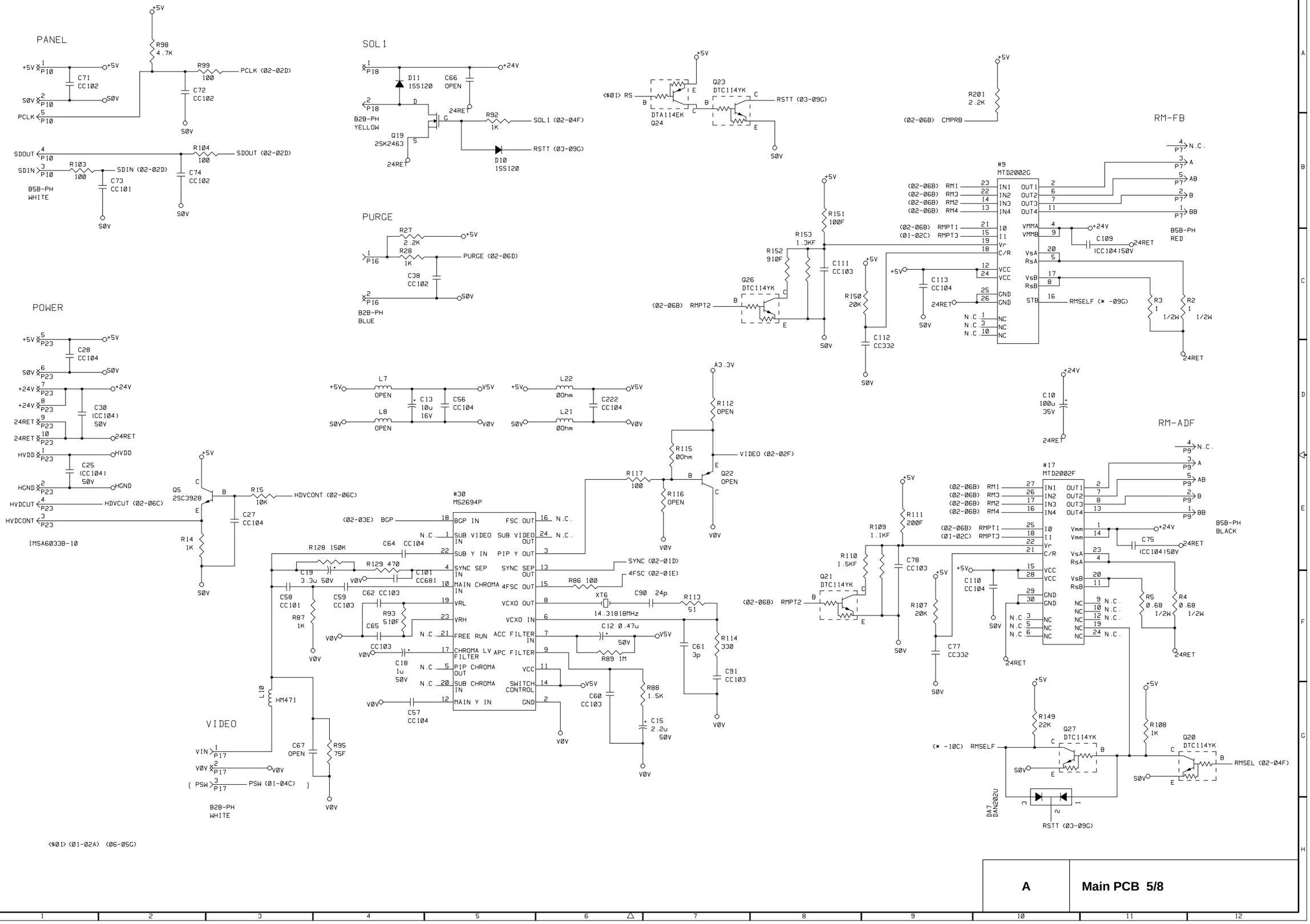
<$02> (01-05F) (02-05B)

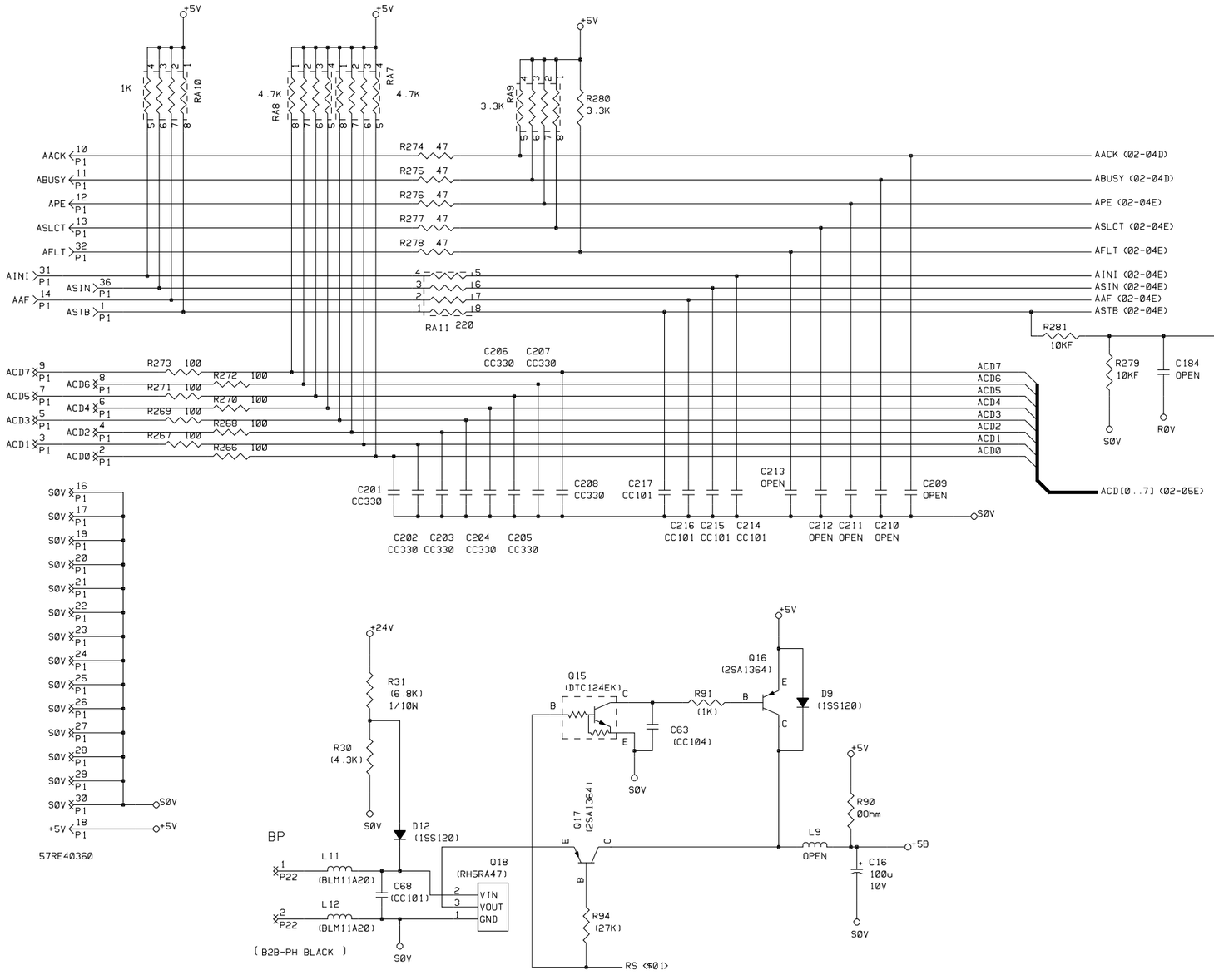
<$03> (* -08F) (* -10C)

<$04> (01-05B) (01-07D)

<$05> (01-05B) (01-07D)

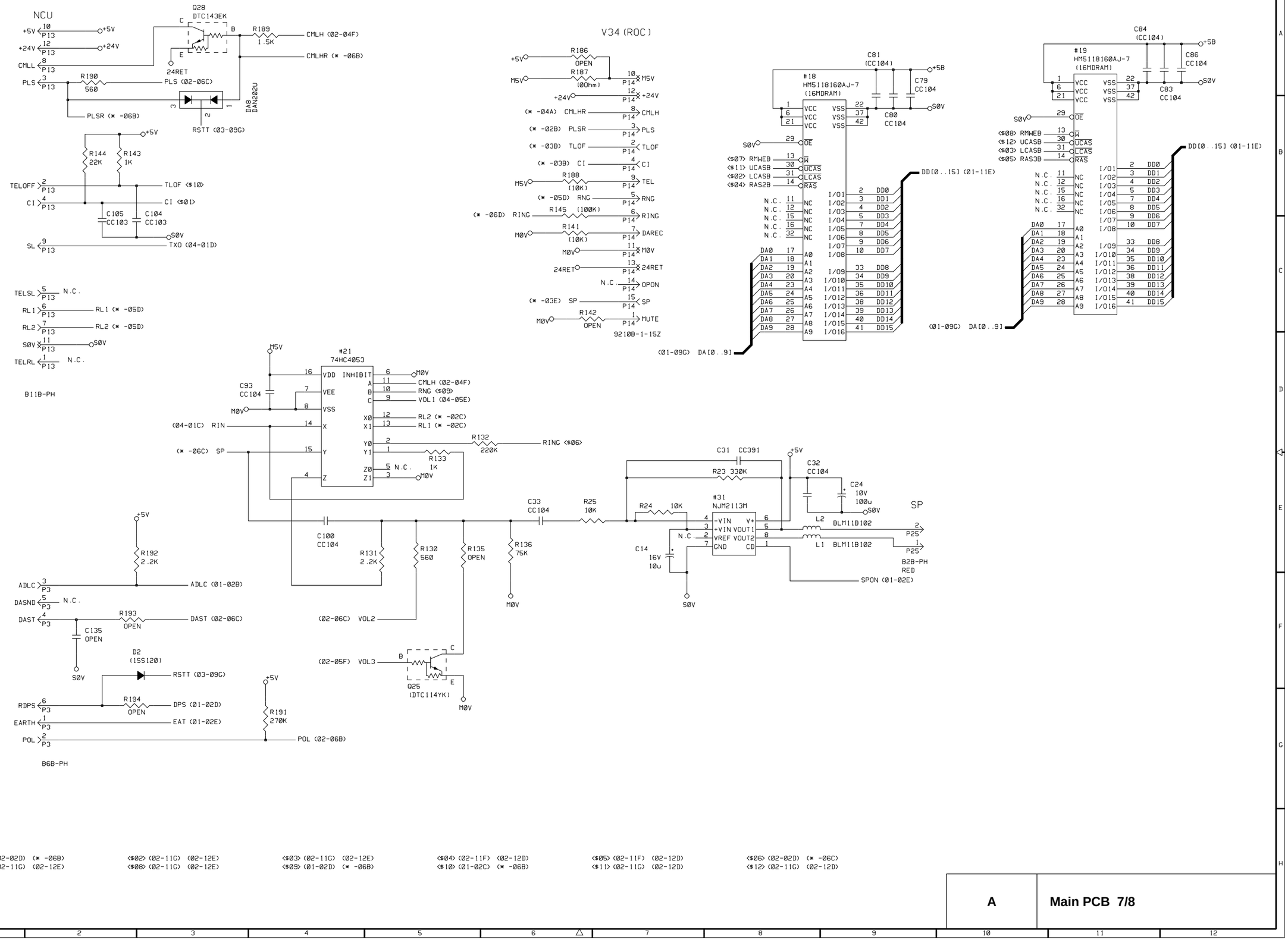
| A | Main PCB 4/8 |
|---|---|

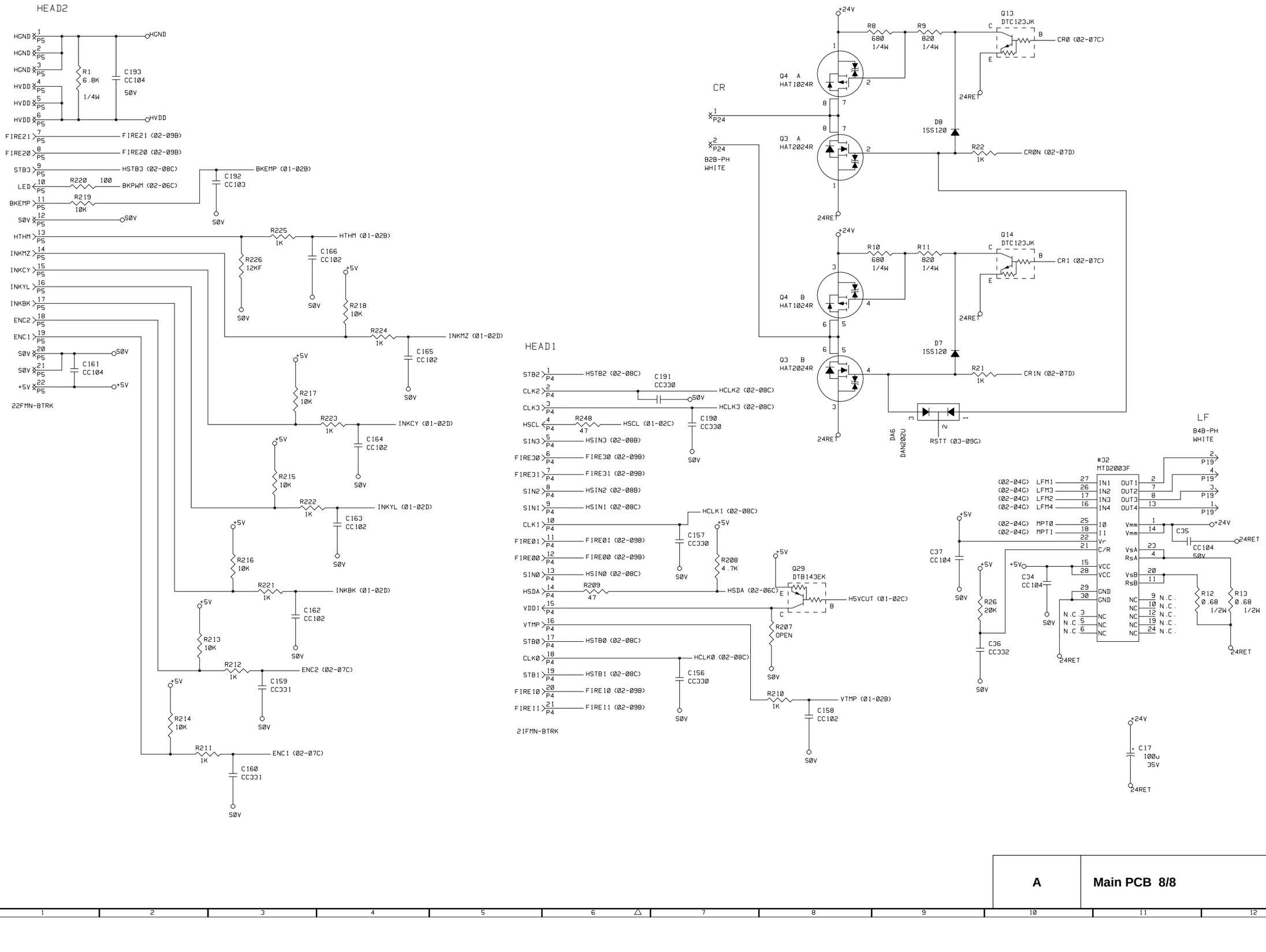

PANEL
R98 4.7K
C71 CC102
C72 CC102
R99 100
PCLK (02-02D)
R104 100
SDOUT (02-02D)
R103 100
SDIN (02-02D)
C73 CC101
C74 CC102
B5B-PH WHITE
SOL 1
D11 1SS120
C66 OPEN
24RET
R92 1K
SOL1 (02-04F)
RSTT (03-09C)
D10 1SS120
Q19 2SK2463
B2B-PH YELLOW
PURGE
R27 2.2K
R28 1K
PURGE (02-06D)
C38 CC102
B2B-PH BLUE
POWER
C28 CC104
C30 (CC104) 50V
C25 (CC104) 50V
HVDD
HGND
HVDCUT (02-06C)
HVDCONT
Q5 2SC3928
R15 10K
C27 CC104
R14 1K
IMSA6033B-10
L7 OPEN
L8 OPEN
C13 10u 16V
C56 CC104
L22 0Ohm
L21 0Ohm
C222 CC104
A3.3V
R112 OPEN
R115 0Ohm
VIDEO (02-02F)
Q22 OPEN
R117 100
R116 OPEN
#30 M52694P
BGP IN
SUB VIDEO IN
SUB Y IN
SYNC SEP IN
MAIN CHROMA IN
VRL
VRH
FREE RUN
CHROMA LV FILTER
PIP CHROMA OUT
SUB CHROMA IN
MAIN Y IN
FSC OUT
SUB VIDEO OUT
PIP Y OUT
SYNC SEP OUT
4FSC OUT
VCXO OUT
VCXO IN
ACC FILTER IN
APC FILTER
VCC
SWITCH CONTROL
GND
R128 150K
C64 CC104
R129 470
C19 3.3u 50V
C101 CC681
C58 CC101
C59 CC103
C62 CC103
R87 1K
R93 510F
C65
C18 1u 50V
CC103
C57 CC104
SYNC (02-01D)
4FSC (02-01E)
R86 100
XT6 14.31818MHz
C90 24p
R113 51
C12 0.47u 50V
R89 1M
C61 3p
R114 330
C91 CC103
R88 1.5K
C60 CC103
C15 2.2u 50V
L10 HM471
C67 OPEN
R95 75F
VIDEO
B2B-PH WHITE
R201 2.2K
CMPRB
Q23 DTC114YK
DTA114EK Q24
RSTT (03-09C)
RM-FB
#9 MTD2002C
R151 100F
R153 1.3KF
R152 910F
C111 CC103
Q26 DTC114YK
RMPT2
R150 20K
C112 CC332
C113 CC104
IN1 IN2 IN3 IN4
OUT1 OUT2 OUT3 OUT4
I0 I1 Vr C/R
VCC VCC
GND GND
VMMA VMMB
VsA RsA VsB RsB
STB
C109 (CC104)50V
B5B-PH RED
RMSELF (* -09G)
R3 1 1/2W
R2 1 1/2W
N.C.
RM-ADF
C10 100u 35V
#17 MTD2002F
R111 200F
R109 1.1KF
R110 1.5KF
Q21 DTC114YK
R107 20K
C78 CC103
C77 CC332
C110 CC104
C75 (CC104)50V
B5B-PH BLACK
R5 0.68 1/2W
R4 0.68 1/2W
R149 22K
Q27 DTC114YK
R108 1K
Q20 DTC114YK
RMSEL (02-04F)
DA7 DAN202U
RSTT (03-09C)
A
Main PCB 5/8




(S01) (02-02A) (02-10F) (02-10G) (03-08E) (05-06A)

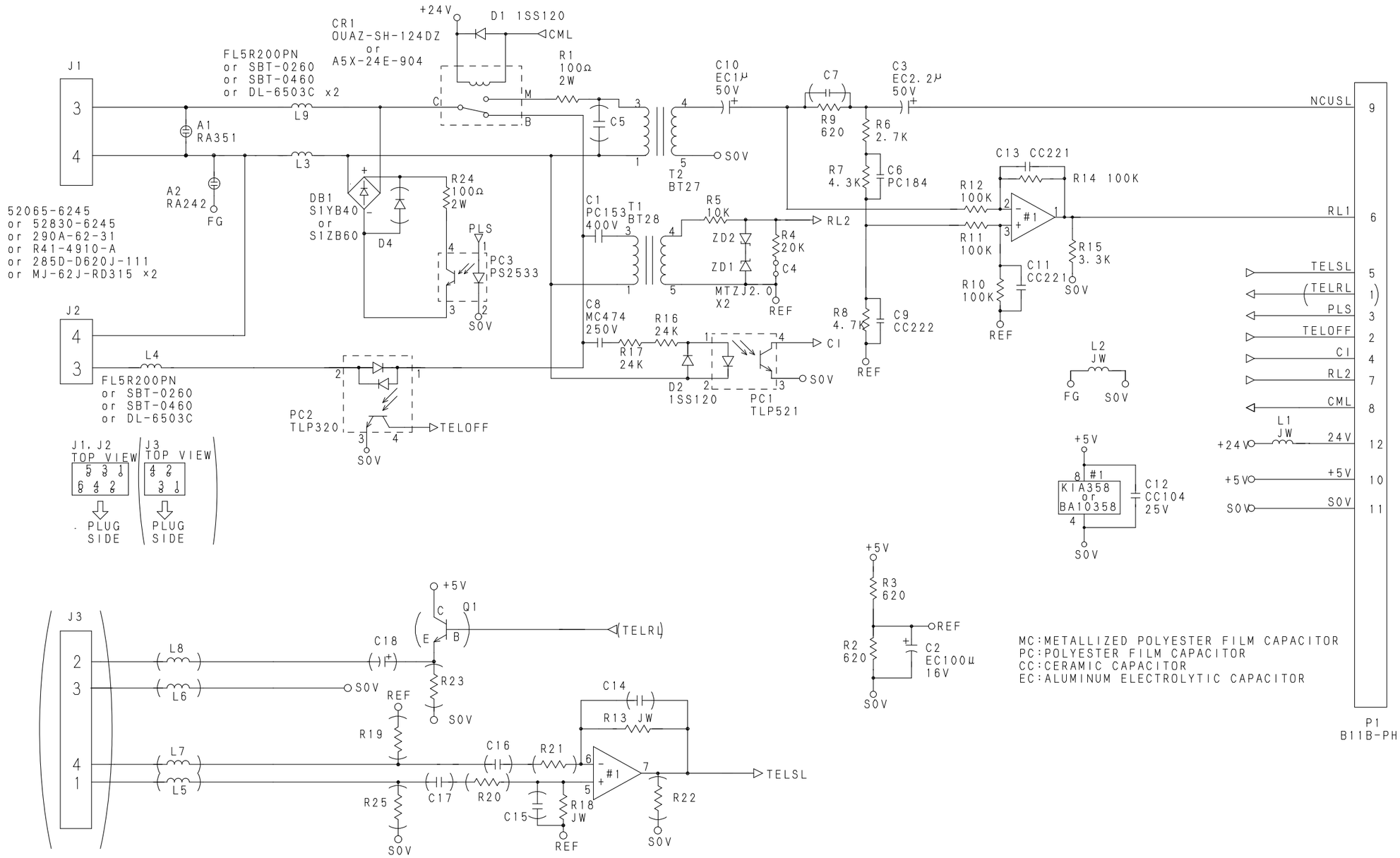
| | |
|---|---|
| A | Main PCB 6/8 |


NCU
Q28
DTC143EK
+5V
+24V
CMLL
PLS
PLSR (✖ -06B)
24RET
R189
1.5K
CMLH (02-04F)
CMLHR (✖ -06B)
R190
560
PLS (02-06C)
DA8
DAN202U
RSTT (03-09G)
R144
22K
R143
1K
TELOFF
TLOF (✖10)
CI
CI (✖01)
C105
CC103
C104
CC103
SL
TXO (04-01D)
TELSL
N.C.
RL1
RL1 (✖ -05D)
RL2
RL2 (✖ -05D)
S0V
TELRL
B11B-PH
V34 (ROC)
R186
OPEN
R187
(0Ohm)
M5V
+24V
CMLH
PLS
TLOF
CI
R188
(10K)
TEL
RNG
R145
(100K)
RING
R141
(10K)
DAREC
M0V
24RET
OPEN
SP
R142
MUTE
9210B-1-15Z
#18
HM5118160AJ-7
(16MDRAM)
C81
(CC104)
C79
CC104
C80
CC104
DD[0..15] (01-11E)
(01-09G) DA[0..9]
#19
HM5118160AJ-7
(16MDRAM)
C84
(CC104)
C86
CC104
C83
CC104
+5B
S0V
RMWEB
UCASB
LCASB
RAS3B
#21
74HC4053
M5V
M0V
C93
CC104
(04-01C) RIN
(✖ -06C) SP
CMLH (02-04F)
RNG (✖09)
VOL1 (04-05E)
RL2 (✖ -02C)
RL1 (✖ -02C)
R132
220K
RING (✖06)
R133
1K
N.C.
C33
CC104
R25
10K
R24
10K
#31
NJM2113M
C31
CC391
R23 330K
C32
CC104
C24
10V
100u
L2
BLM11B102
L1
BLM11B102
SP
B2B-PH
RED
SPON (01-02E)
C14
16V
10u
C100
CC104
R131
2.2K
R130
560
R135
OPEN
R136
75K
R192
2.2K
ADLC
ADLC (01-02B)
DASND
N.C.
DAST
DAST (02-06C)
R193
OPEN
C135
OPEN
D2
(1SS120)
RSTT (03-09G)
RDPS
R194
OPEN
DPS (01-02D)
EARTH
EAT (01-02E)
POL
POL (02-06B)
R191
270K
B6B-PH
(02-06C) VOL2
(02-05F) VOL3
Q25
(DTC114YK)
<$01> (02-02D) (✖ -06B)
<$02> (02-11G) (02-12E)
<$03> (02-11G) (02-12E)
<$04> (02-11F) (02-12D)
<$05> (02-11F) (02-12D)
<$06> (02-02D) (✖ -06C)
<$07> (02-11G) (02-12E)
<$08> (02-11G) (02-12E)
<$09> (01-02D) (✖ -06B)
<$10> (01-02C) (✖ -06B)
<$11> (02-11G) (02-12D)
<$12> (02-11G) (02-12D)
A
Main PCB 7/8

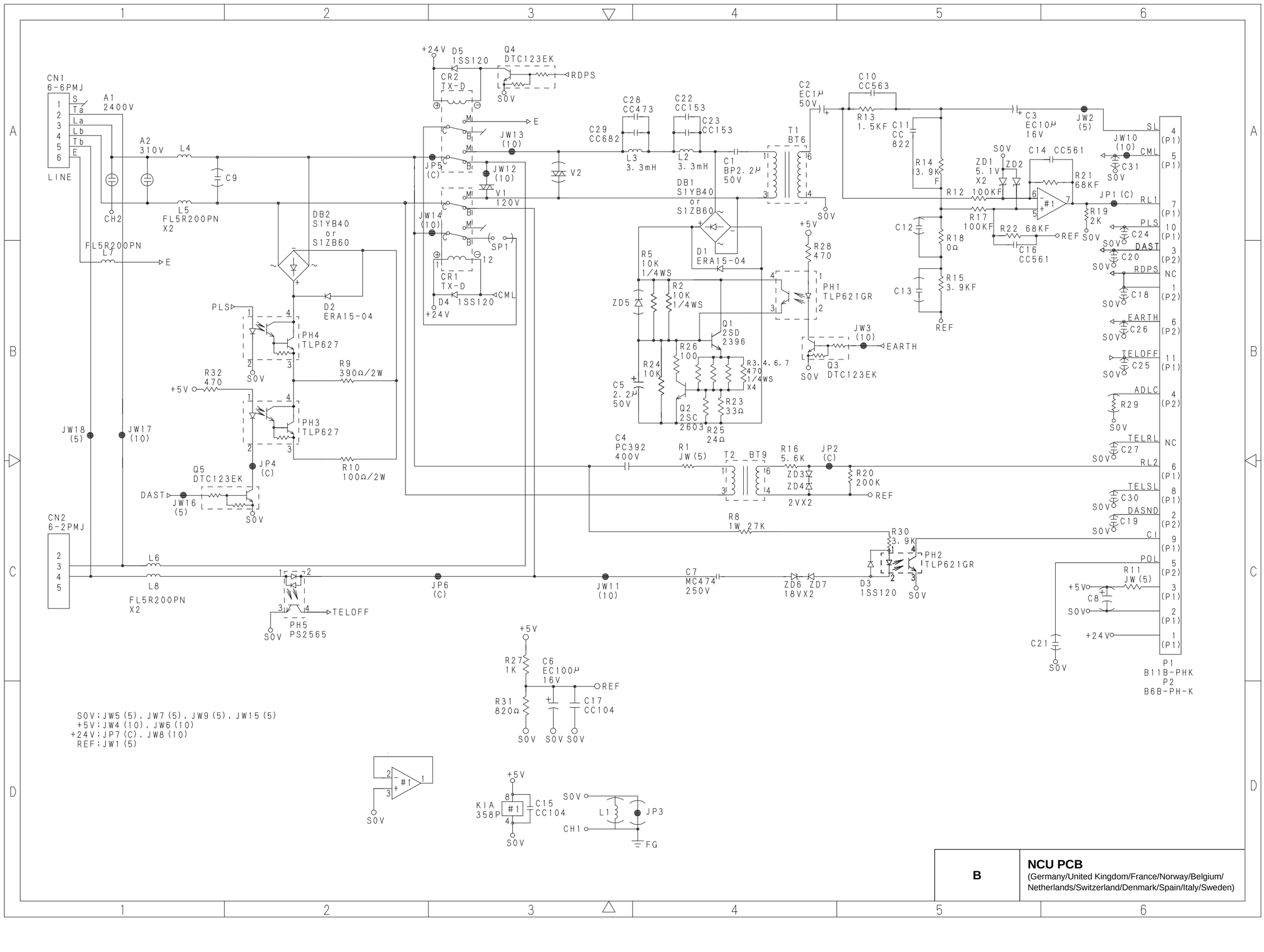

HEAD2
HGND
HVDD
FIRE21
FIRE20
STB3
LED
BKEMP
S0V
HTHM
INKMZ
INKCY
INKYL
INKBK
ENC2
ENC1
+5V
R1 6.8K 1/4W
C193 CC104 50V
R220 100
R219 10K
C192 CC103
R225 1K
R226 12KF
C166 CC102
R218 10K
R224 1K
C165 CC102
C161 CC104
22FMN-BTRK
R217 10K
R223 1K
C164 CC102
R215 10K
R222 1K
C163 CC102
R216 10K
R221 1K
C162 CC102
R213 10K
R212 1K
C159 CC331
R214 10K
R211 1K
C160 CC331
HSTB3 (02-08C)
BKPWM (02-06C)
BKEMP (01-02B)
FIRE21 (02-09B)
FIRE20 (02-09B)
HTHM (01-02B)
INKMZ (01-02D)
INKCY (01-02D)
INKYL (01-02D)
INKBK (01-02D)
ENC2 (02-07C)
ENC1 (02-07C)
HEAD1
STB2
CLK2
CLK3
HSCL
SIN3
FIRE30
FIRE31
SIN2
SIN1
CLK1
FIRE01
FIRE00
SIN0
HSDA
VDD1
VTMP
STB0
CLK0
STB1
FIRE10
FIRE11
C191 CC330
R248 47
C190 CC330
C157 CC330
R208 4.7K
R209 47
C156 CC330
R207 OPEN
R210 1K
C158 CC102
21FMN-BTRK
HSTB2 (02-08C)
HCLK2 (02-08C)
HCLK3 (02-08C)
HSCL (01-02C)
HSIN3 (02-08B)
FIRE30 (02-09B)
FIRE31 (02-09B)
HSIN2 (02-08B)
HSIN1 (02-08C)
HCLK1 (02-08C)
FIRE01 (02-09B)
FIRE00 (02-09B)
HSIN0 (02-08C)
HSDA (02-06C)
HSTB0 (02-08C)
HCLK0 (02-08C)
HSTB1 (02-08C)
FIRE10 (02-09B)
FIRE11 (02-09B)
Q29 DTB143EK
H5VCUT (01-02C)
VTMP (01-02B)
CR
B2B-PH WHITE
Q4 A HAT1024R
Q3 A HAT2024R
Q4 B HAT1024R
Q3 B HAT2024R
+24V
24RET
R8 680 1/4W
R9 820 1/4W
Q13 DTC123JK
CR0 (02-07C)
D8 1SS120
R22 1K
CR0N (02-07D)
R10 680 1/4W
R11 820 1/4W
Q14 DTC123JK
CR1 (02-07C)
D7 1SS120
R21 1K
CR1N (02-07D)
DA6 DAN202U
RSTT (03-09G)
LF
B4B-PH WHITE
#32 MTD2003F
(02-04G) LFM1
(02-04G) LFM3
(02-04G) LFM2
(02-04G) LFM4
(02-04G) MPT0
(02-04G) MPT1
C37 CC104
C34 CC104
C36 CC332
R26 20K
C35 CC104 50V
R12 0.68 1/2W
R13 0.68 1/2W
C17 100u 35V
P19
N.C.

| | |
|---|---|
| A | Main PCB 8/8 |

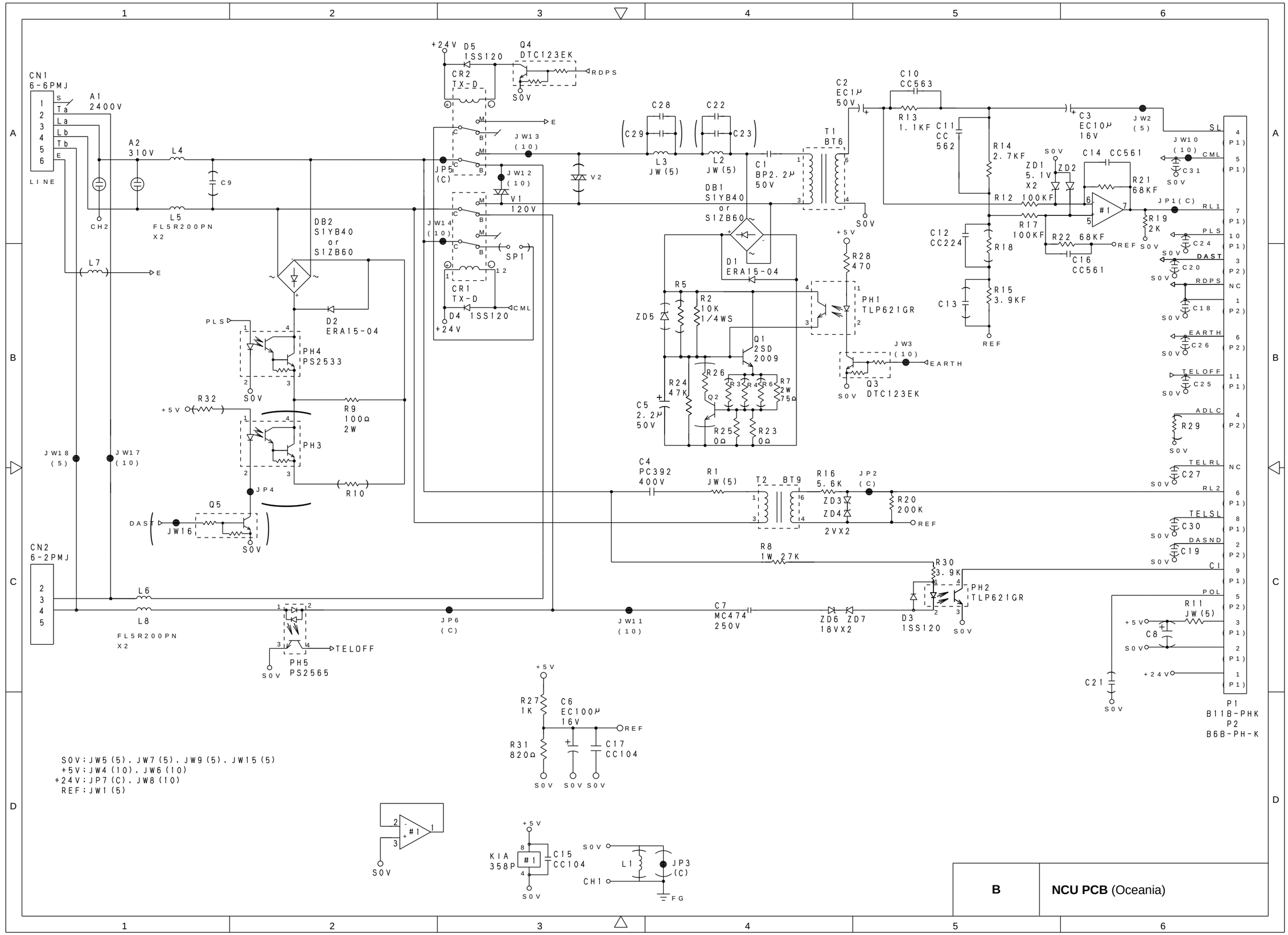
1. 指示ナキ抵抗ノ消費電力ハ1／4Wトスル。
1. UNLESS OTHERWISE SPECIFIED, POWER CONSUMPTION OF RESISTORS IS 1/4W.
2. 指示ナキコンデ゛ンサノ耐圧ハ25V又ハ50Vトスル。
2. UNLESS OTHERWISE SPECIFIED, THE VOLTAGE RESISTANCE OF CAPACITORS IS 25V OR 50V.
3. ( ) 内ノ部品ハ未実装トスル。
3. COMPONENTS IN PARENTHESIS NOT TO BE MOUNTED.




| | |
|---|---|
| B | **NCU PCB** (U.S.A.) |

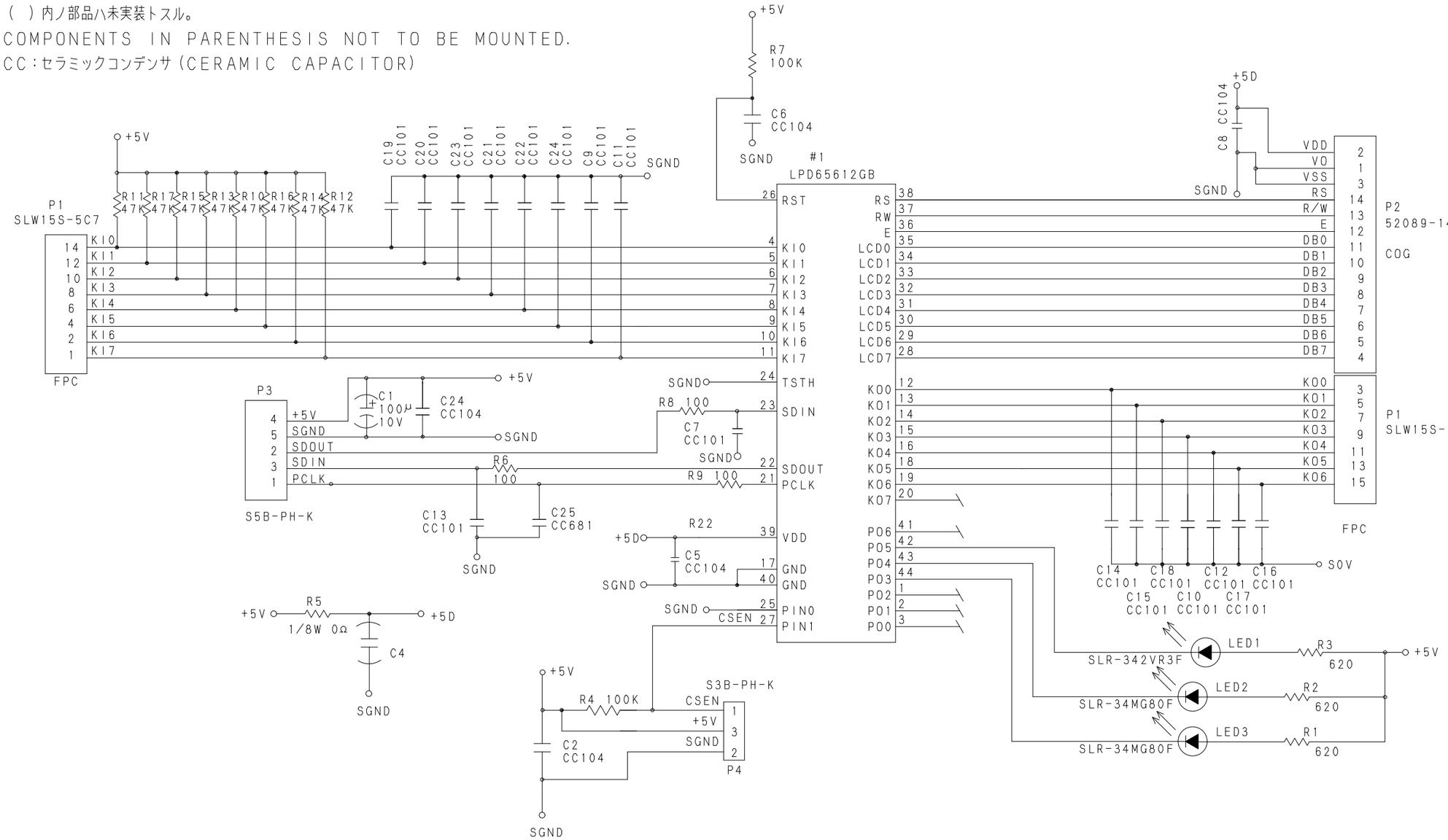



| | |
|---|---|
| B | **NCU PCB**<br>(Germany/United Kingdom/France/Norway/Belgium/Netherlands/Switzerland/Denmark/Spain/Italy/Sweden) |

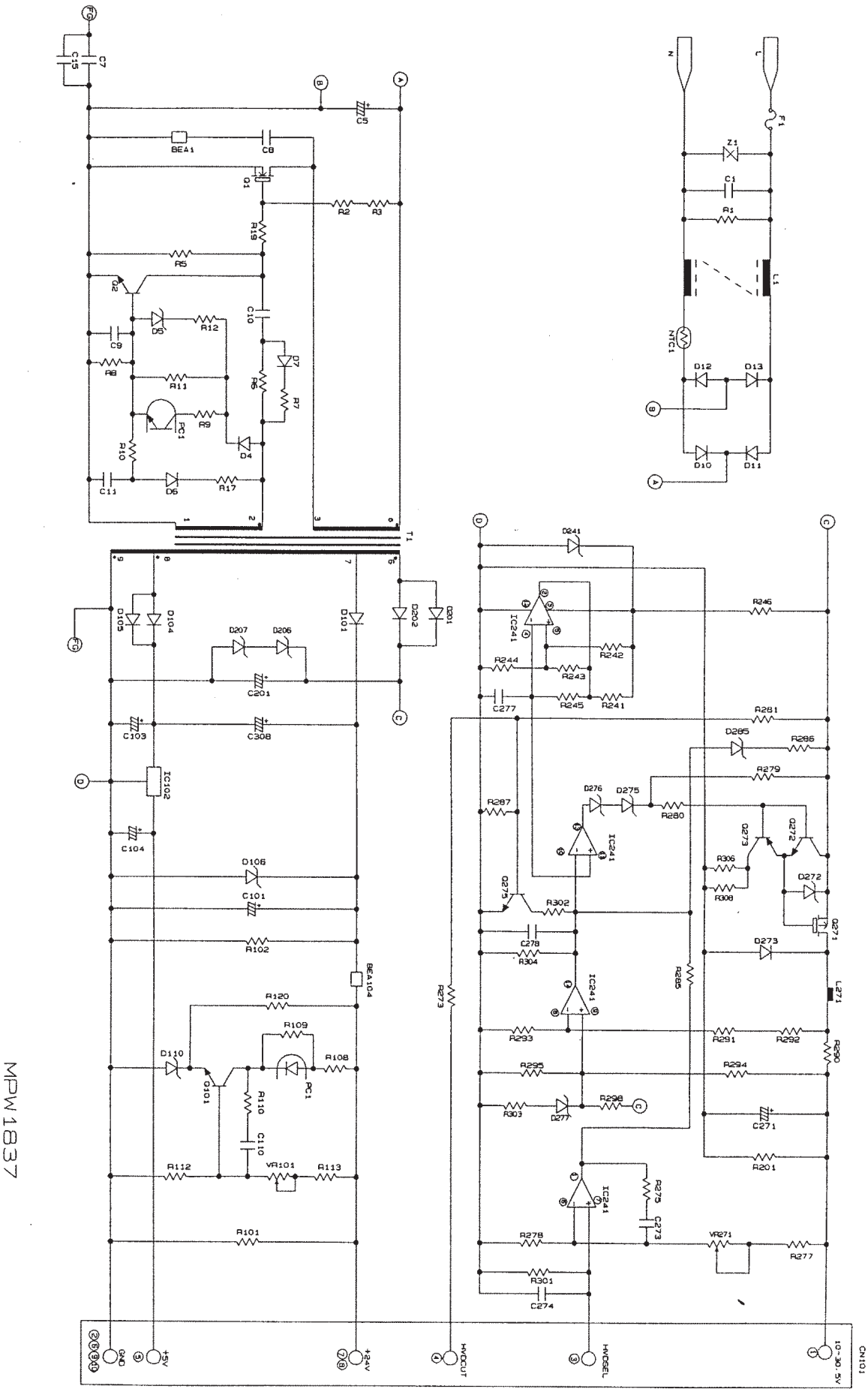


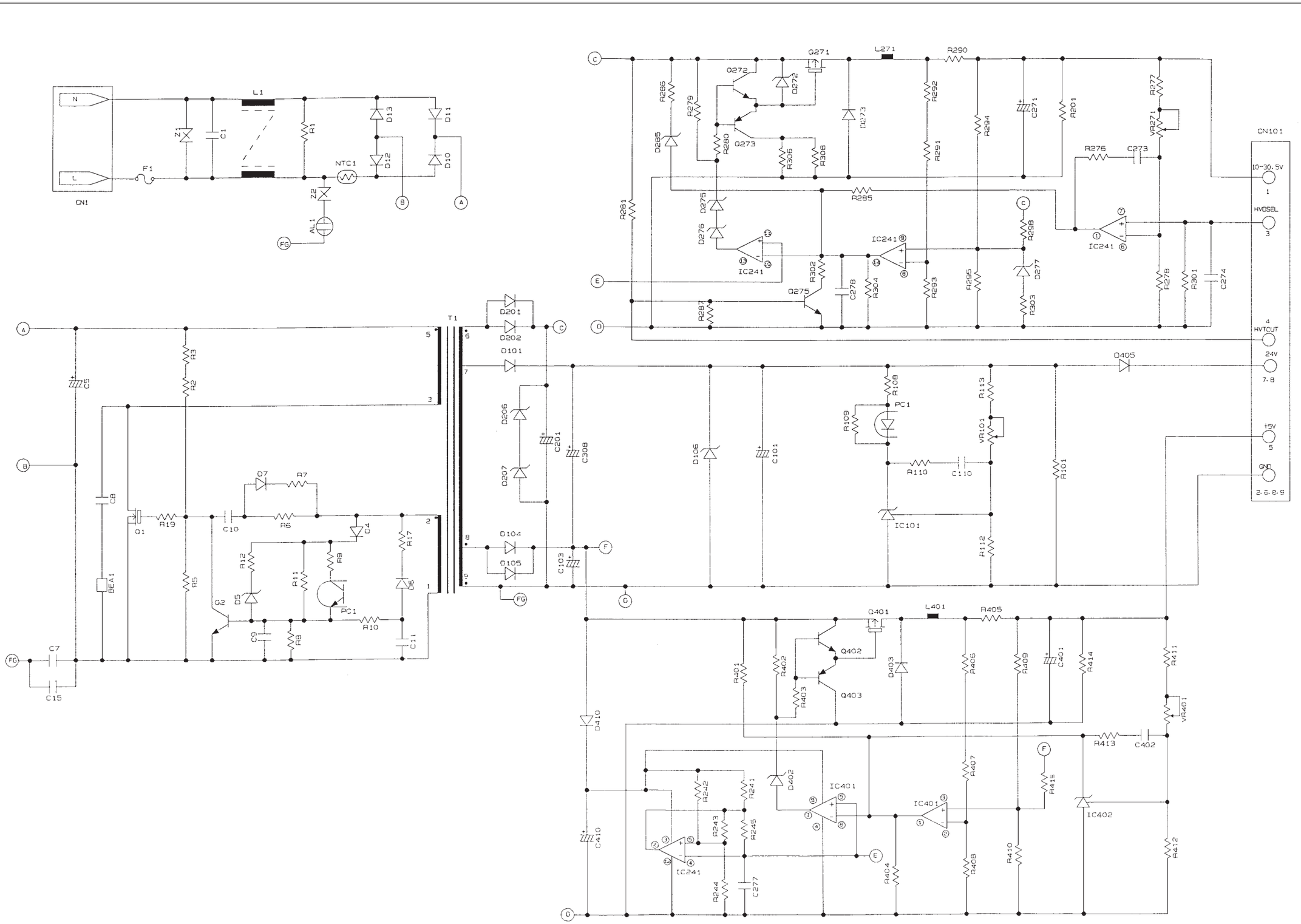

| | |
|---|---|
| B | **NCU PCB** (Oceania) |

1. 指示ナキ抵抗ノ定格電力ハ1／10Wトスル。
1. UNLESS OTHERWISE SPECIFIED, STANDARD ELECTRIC POWER OF RESISTORS IS 1/10W.
2. 指示ナキコンデ゛ンサノ耐圧ハ25V又ハ50Vトスル。
2. UNLESS OTHERWISE SPECIFIED, THE VOLTAGE RESISTANCE OF CAPACITORS IS 25V OR 50V.
3. （ ）内ノ部品ハ未実装トスル。
3. COMPONENTS IN PARENTHESIS NOT TO BE MOUNTED.
4. CC：セラミックコンデンサ（CERAMIC CAPACITOR）




| | |
|---|---|
| C | Control Panel PCB |


MPW1837
D
Power supply
100-120V



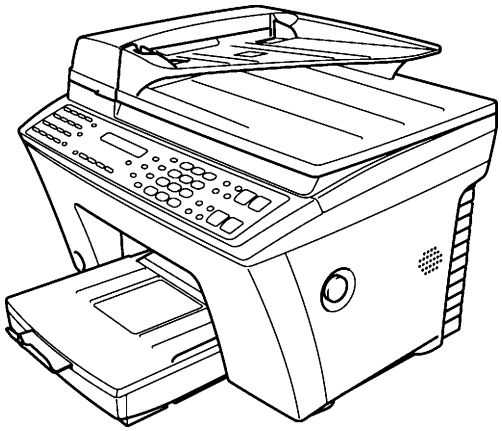

| | |
|---|---|
| D | **Power supply 200-240 V** |

FACSIMILE EQUIPMENT

# PARTS REFERENCE LIST

# MODEL: MFC9100C

**(For U.S.A / Canada / Australia / New Zealand )**



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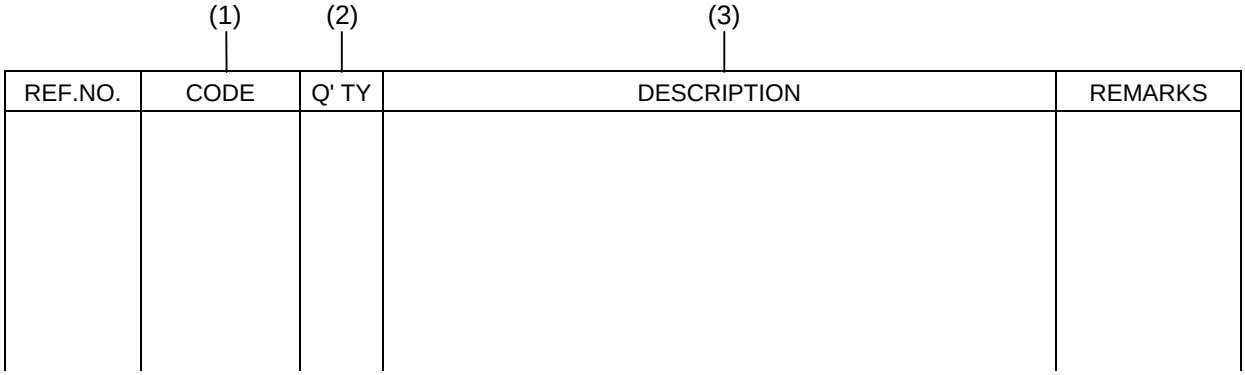
## NOTES FOR USING THIS PARTS REFERENCE LIST

1. In the case of ordering parts, it needs mentioning the following items:
   (1) Code
   (2) Q' ty
   (3) Description

   Note: No orders without Parts Code or Tool No. can be accepted.

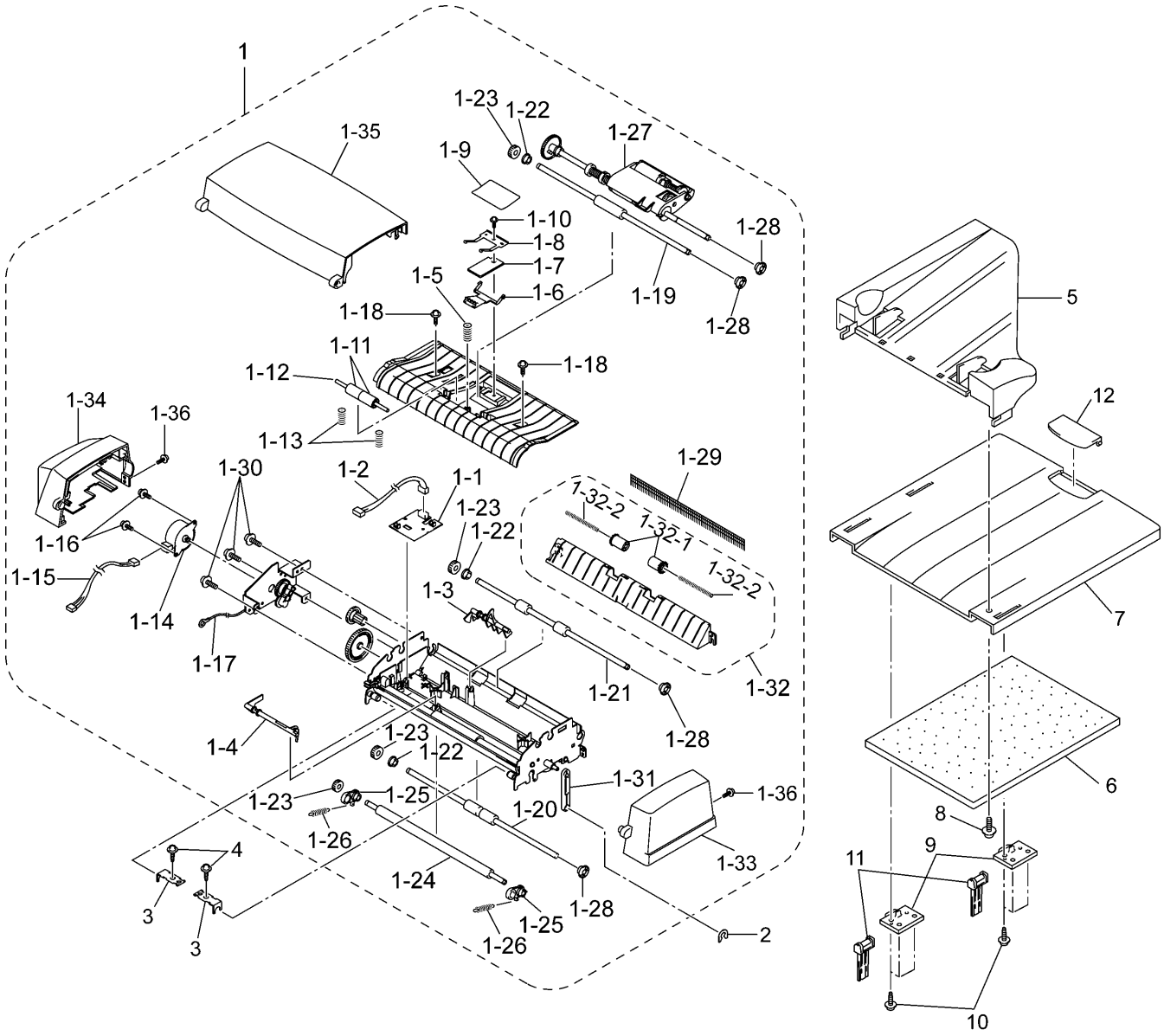
[Example]




2. Parts change will be informed by the technical information.

## COUNTRIES

U.S.A. ----- US
Canada ------ CAN
Australia ----- ARL
New Zealand ----- NZ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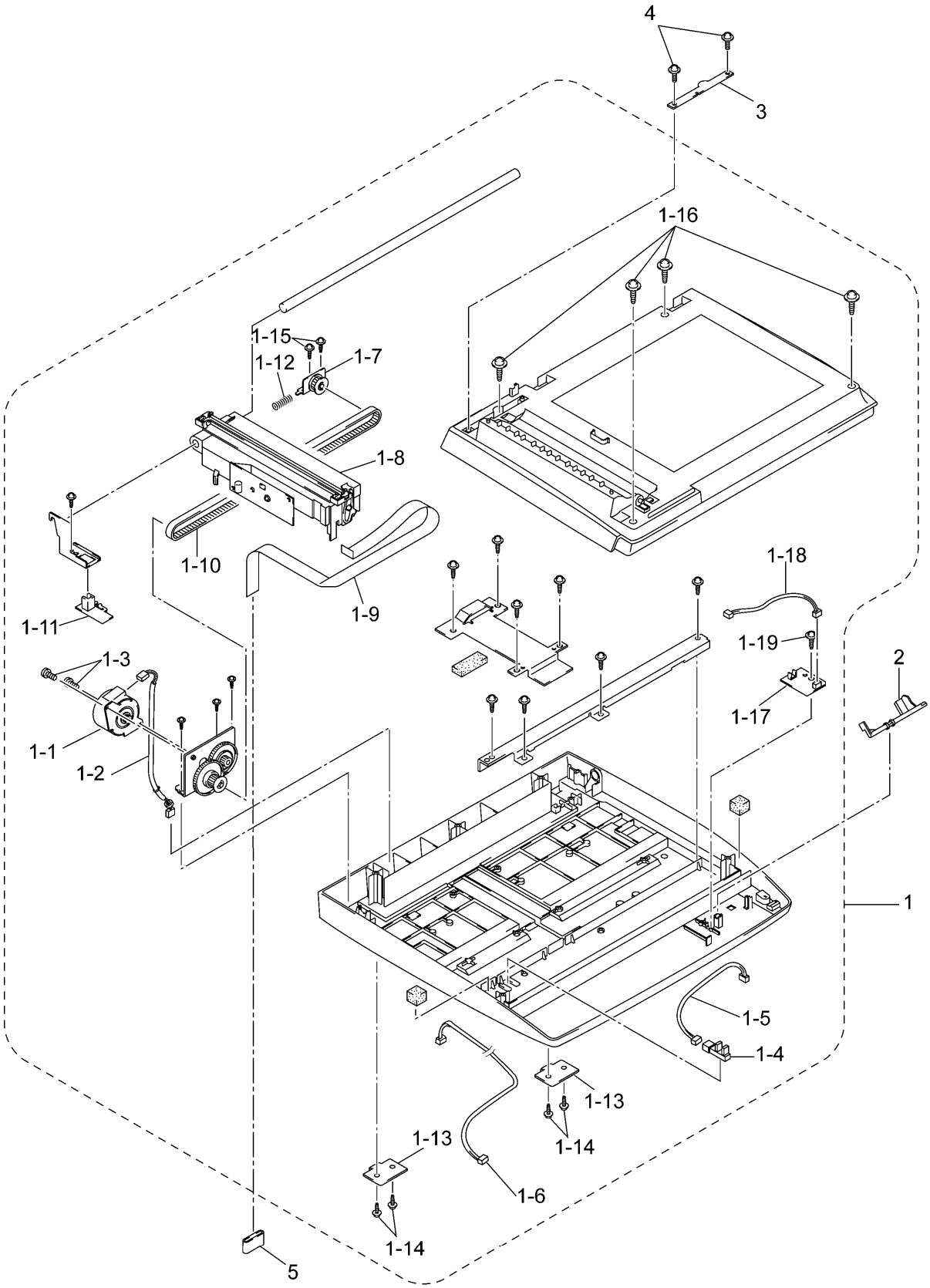
| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| 1 | LE2005001 | 1 | ADF UNIT | |
| 1-1 | UG6609001 | 1 | DOCUMENT SENSOR PCB | |
| 1-2 | LG2014001 | 1 | DOCUMENT SENSOR HARNESS | |
| 1-3 | UF7026001 | 1 | DOCUMENT FRONT SENSOR ACTUATOR | |
| 1-4 | LE2008001 | 1 | DOCUMENT REAR SENSOR ACTUATOR | |
| 1-5 | LE2011001 | 1 | COMPRESSION SPRING | |
| 1-6 | LE2551001 | 1 | RUBBER HOLDER A | |
| 1-7 | UU2055001 | 1 | SEPARATION RUBBER | |
| 1-8 | LE2550001 | 1 | SPRING PLATE A | |
| 1-9 | LE2470001 | 1 | ADF FILM | |
| 1-10 | UF6116001 | 1 | TAPTITE, PAN B M3X6 | |
| 1-11 | UF9009001 | 2 | PRESSURE ROLLER | |
| 1-12 | LE2471001 | 1 | PRESSURE ROLLER SHAFT | |
| 1-13 | LE2472001 | 2 | PRESSURE ROLLER SPRING | |
| 1-14 | LE2566001 | 1 | ADF MOTOR | |
| 1-15 | LG2015001 | 1 | ADF MOTOR HARNESS | |
| 1-16 | 0A4300605 | 2 | SCREW, PAN (S/P WASHER) M3X6 | |
| 1-17 | LG2016001 | 1 | GROUNDING WIRE | |
| 1-18 | 087310815 | 2 | TAPTITE, CUP B M3X8 | |
| 1-19 | LE2026001 | 1 | UPPER LF ROLLER (GRAY) | |
| 1-20 | LE2029001 | 1 | LOWER LF ROLLER (BLACK) | |
| 1-21 | LE2028001 | 1 | DOCUMENT EJECTION ROLLER | |
| 1-22 | UF8105001 | 3 | CONDUCTIVE BUSHING | |
| 1-23 | UU7039001 | 4 | LF ROLLER GEAR 27 | |
| 1-24 | LE2030001 | 1 | WHITE ROLLER | |
| 1-25 | LE2032001 | 2 | WHITE ROLLER BUSHING | |
| 1-26 | LE2033001 | 2 | EXTENSION SPRING | |
| 1-27 | LE2035001 | 1 | DOCUMENT FEED ROLLER HOLDER ASSY | |
| (1-27-1) | LE2037001 | 2 | DOCUMENT FEED ROLLER (RUBBER) | |
| 1-28 | UU1290001 | 4 | CONDUCTIVE BUSHING | |
| 1-29 | UU7505001 | 1 | ANTI-STATIC BRUSH | |
| 1-30 | 087320616 | 3 | TAPTITE, CUP S M3X6 | |
| 1-31 | UF0208001 | 1 | ADF ARM | |
| 1-32 | LE2048001 | 1 | DOCUMENT EJECTION CHUTE ASSY | |
| 1-32-1 | LE2582001 | 2 | PINCH ROLLER | |
| 1-32-2 | UU2009001 | 2 | PINCH ROLLER SPRING | |
| 1-33 | LE2050001 | 1 | ADF SIDE COVER F, WHITE(1495) | |
| 1-34 | LE2051001 | 1 | ADF SIDE COVER R, WHITE(1495) | |
| 1-35 | LE2534001 | 1 | ADF COVER ASSY, WHITE(1495) | |
| 1-36 | 087320815 | 2 | TAPTITE, CUP S M3X8 | |
| 2 | UF8088001 | 1 | PLASTIC RETAINING RING | |
| 3 | LE2053001 | 2 | ADF SUPPORT | |
| 4 | 087310815 | 2 | TAPTITE, CUP B M3X8 | |
| 5 | LE2056001 | 1 | DOCUMENT CHUTE, WHITE(1495) | |
| 6 | LE2487001 | 1 | DOCUMENT SPONGE | |
| 7 | LE2059001 | 1 | DOCUMENT TRAY, WHITE(1495) | |
| 8 | 087320815 | 1 | TAPTITE, CUP S M3X8 | |
| 9 | LE2567001 | 2 | HINGE A | |
| 10 | 087311015 | 6 | TAPTITE, CUP B M3X10 | |
| 11 | LE2568001 | 2 | HINGE HOLDER A | |
| 12 | LE2777001 | 1 | DOCUMENT SUPPORT, WHITE(1495) | |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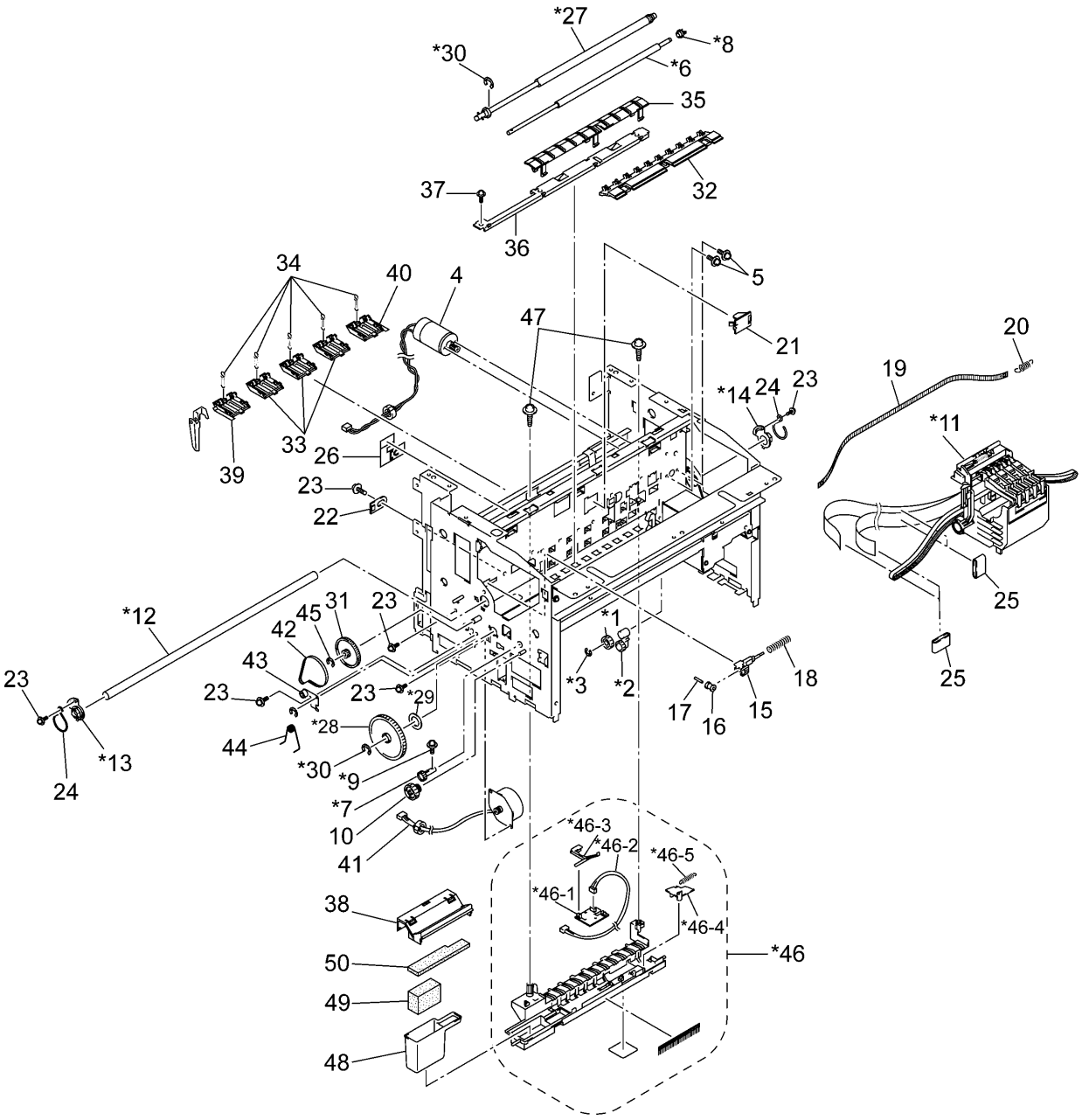
| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| 1 | LE2883001 | 1 | SCANNER UNIT SUPPLY ASSY | |
| 1-1 | UU7490001 | 1 | CCD MOTOR | |
| 1-2 | LG2017001 | 1 | CCD MOTOR HARNESS | |
| 1-3 | 0A4300605 | 2 | SCREW, PAN (S/P WASHER) M3X6 | |
| 1-4 | LG2239001 | 1 | CCD HP SENSOR | |
| 1-5 | LG2019001 | 1 | CCD HP SENSOR HARNESS | |
| 1-6 | LG2025001 | 1 | PANEL-MAIN HARNESS | |
| 1-7 | LE2074001 | 1 | CCD IDLE PULLEY HOLDER ASSY | |
| 1-8 | LE2884001 | 1 | CCD UNIT SUPPLY ASSY | |
| 1-9 | LG2196001 | 1 | CCD FLAT CABLE | |
| 1-10 | LE2297001 | 1 | CCD DRIVE BELT | |
| 1-11 | LE2082001 | 1 | CCD LOCK | |
| 1-12 | LE2079001 | 1 | COMPRESSION SPRING | |
| 1-13 | LE2098001 | 2 | HINGE PLATE | |
| 1-14 | 085411216 | 4 | TAPTITE, BIND B M4X12 | |
| 1-15 | LE2805001 | 2 | TAPTITE, PAN B M3X10 | |
| 1-16 | 087411216 | 4 | TAPTITE, CUP B M4X12 | |
| 1-17 | LG2018001 | 1 | COVER SENSOR PCB | |
| 1-18 | LG2137001 | 1 | COVER SENSOR HARNESS | |
| 1-19 | 087310815 | 1 | TAPTITE, CUP B M3X8 | |
| 2 | LE2095001 | 1 | COVER SENSOR ACTUATOR | |
| 3 | LE2092001 | 1 | HARNESS SUPPORT | |
| 4 | 087310815 | 2 | TAPTITE, CUP B M3X8 | |
| 5 | LG2020001 | 1 | FLAT CORE (CCD) | |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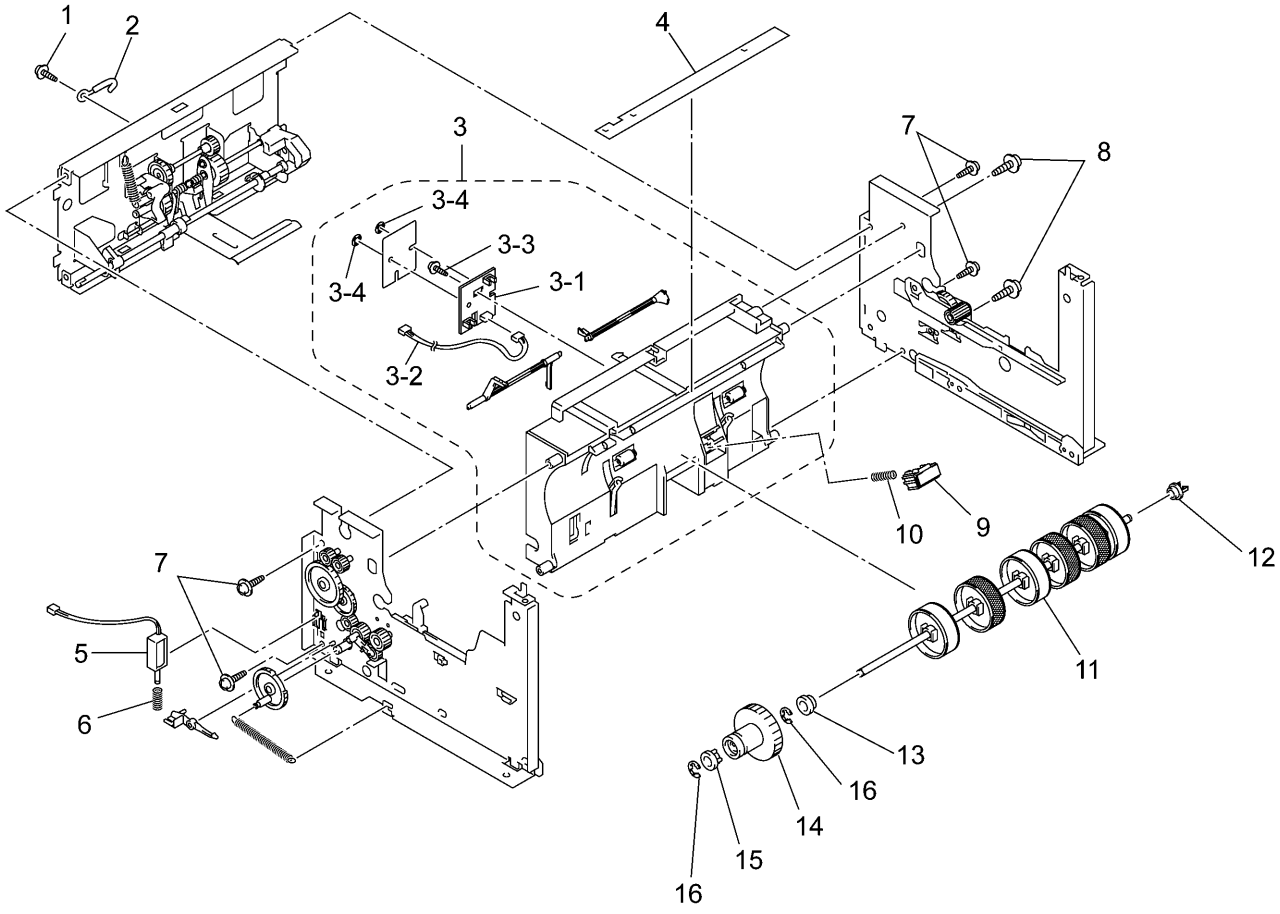
**To replace part marked with an asterisk(*), you need the special adjustment jig set. If your service center has no special adjustment jig set, you cannot handle those parts as spare parts.**

| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| *1 | LE2110001 | 1 | IDLE GEAR 23 | |
| *2 | LE2111001 | 1 | ARM 12.3 ASSY | |
| *3 | 048030345 | 1 | RETAINING RING, E3 | |
| 4 | UU1042001 | 1 | CARRIAGE MOTOR | |
| 5 | 0A5300605 | 2 | SCREW, PAN (S/P WASHER) M3X6 | |
| *6 | UU1047001 | 1 | PAPER EJECTION ROLLER | |
| *7 | UU1049001 | 1 | PAPER EJECTION ROLLER GEAR | |
| *8 | UU1290001 | 1 | CONDUCTIVE BUSHING | |
| *9 | 0A5260805 | 1 | TAPTITE, PAN 2.6X8DB | |
| 10 | UU1050001 | 1 | IDLE GEAR EJECTION | |
| *11 | LE0159001 | 1 | CARRIAGE ASSY | |
| | | | (SUPPLY ASSY INCLUDING CR DRIVE BELT AND FLAT CABLES) | |
| *12 | UU1077001 | 1 | CARRIAGE RAIL | |
| *13 | UU1078001 | 1 | ECCENTRIC BUSHING L | |
| *14 | UU1079001 | 1 | ECCENTRIC BUSHING R | |
| 15 | UU1081001 | 1 | IDLE PULLEY HOLDER | |
| 16 | UD6023000 | 1 | IDLE PULLEY | |
| 17 | UD6025001 | 1 | IDLE PULLEY SHAFT | |
| 18 | LE0010001 | 1 | TENSION SPRING | |
| 19 | UD6014001 | 1 | ENCODER STRIP | |
| 20 | UD6012001 | 1 | SPRING, EXTENSION | |
| 21 | UU1088001 | 1 | FFC HOLDER | |
| 22 | UU1286001 | 1 | IDLE PULLEY STOPPER | |
| 23 | 0A5300805 | 6 | SCREW, PAN (S/P WASHER) M3X8 | |
| 24 | UU1476001 | 2 | BUSHING LOCK | |
| 25 | UG5569000 | 2 | FLAT CORE | |
| 26 | UU1459001 | 1 | CORE SUPPORT | |
| *27 | UU1089001 | 1 | PAPER FEED ROLLER | |
| *28 | UU1094001 | 1 | PAPER FEED ROLLER GEAR L | |
| *29 | UU1092001 | 1 | SPACER | |
| *30 | 048080345 | 2 | RETAINING RING, E8 | |
| 31 | UU1428001 | 1 | IDLE GEAR P720 | |
| 32 | UU1108001 | 1 | STAR WHEEL HOLDER ASSY | |
| 33 | LE2759001 | 3 | PAPER PRESSURE HOLDER ASSY | |
| 34 | UU1115001 | 5 | PRESSER ROLLER SPRING | |
| 35 | UU1116001 | 1 | PLATEN | |
| 36 | UU1117001 | 1 | PLATEN FRAME | |
| 37 | 087320616 | 1 | TAPTITE, CUP S M3X6 | |
| 38 | UU1315001 | 1 | FLUSHING FOAM GUTTER | |
| 39 | LE2760001 | 1 | PAPER PRESSURE HOLDER L | |
| 40 | LE2761001 | 1 | PAPER PRESSURE HOLDER R | |
| 41 | LE2479001 | 1 | PAPER FEED MOTOR | |
| 42 | UU1446001 | 1 | PF DRIVE BELT | |
| 43 | UU1450001 | 1 | TENSION PLATE ASSY | |
| 44 | UU1444001 | 1 | SPRING | |
| 45 | 048040345 | 1 | RETAINING RING, E4 | |
| *46 | LE2117001 | 1 | LOWER CHUTE ASSY | |
| *46-1 | UG6609001 | 1 | PAPER EJECTION/CASSETTE SENSOR PCB | |
| *46-2 | LG2021001 | 1 | PAPER EJECTION/CASSETTE SENSOR HARNESS | |
| *46-3 | LE2119001 | 1 | PAPER EJECTION SENSOR ACTUATOR | |
| *46-4 | LE2120001 | 1 | CASSETTE SENSOR ACTUATOR | |
| *46-5 | UD4336001 | 1 | ACTUATOR SPRING | |
| 47 | 087411015 | 2 | TAPTITE, CUP B M4X10 | |
| 48 | UU1449001 | 1 | FLUSHING FOAMS PACK | |
| 49 | UU1199001 | 1 | LOWER FLUSHING FOAM | |
| 50 | UU1200001 | 1 | UPPER FLUSHING FOAM | |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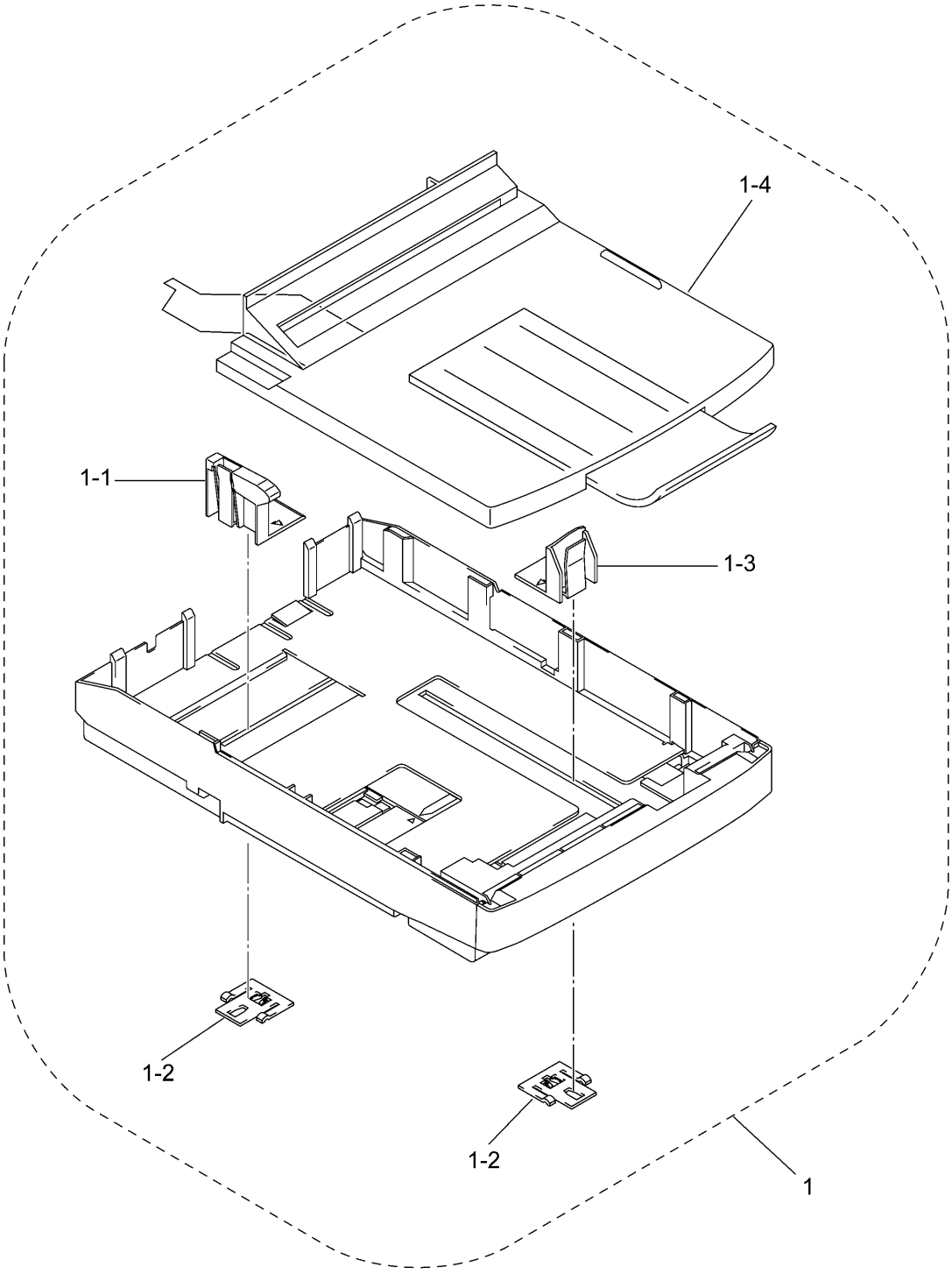
| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| 1 | 087320616 | 1 | TAPTITE, CUP S M3X6 | |
| 2 | LE2489001 | 1 | CABLE CLIP | |
| 3 | LE2157001 | 1 | UPPER PAPER CHUTE ASSY | |
| 3-1 | UG6609001 | 1 | PAPER WIDTH/REGISTRATION SENSOR PCB | |
| 3-2 | LG2022001 | 1 | PAPER WIDTH/REGISTRATION SENSOR HARNESS | |
| 3-3 | 087270816 | 1 | TAPTITE, CUP B M2.6X8 | |
| 3-4 | UF0250000 | 2 | PUSH NUT 3 | |
| 4 | LE2169001 | 1 | CHUTE FILM | |
| 5 | LE2481001 | 1 | SOLENOID | |
| 6 | UD4319001 | 1 | SOLENOID SPRING | |
| 7 | 087320616 | 4 | TAPTITE, CUP S M3X6 | |
| 8 | 087311016 | 2 | TAPTITE, CUP B M3X10 | |
| 9 | LE2208001 | 1 | SEPARATION PAD HOLDER ASSY | |
| 10 | LE2211001 | 1 | SEPARATION PAD SPRING | |
| 11 | LE2213001 | 1 | PAPER PICK-UP ROLLER ASSY | |
| 12 | UU1290001 | 1 | PAWLED BUSHING | |
| 13 | UF8105001 | 1 | CONDUCTIVE BUSHING | |
| 14 | LE2220001 | 1 | PAPER PICK-UP ROLLER GEAR ASSY | |
| 15 | LE2482001 | 1 | COLLAR STOPPER | |
| 16 | 048050346 | 2 | RETAINING RING, E5 | |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| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
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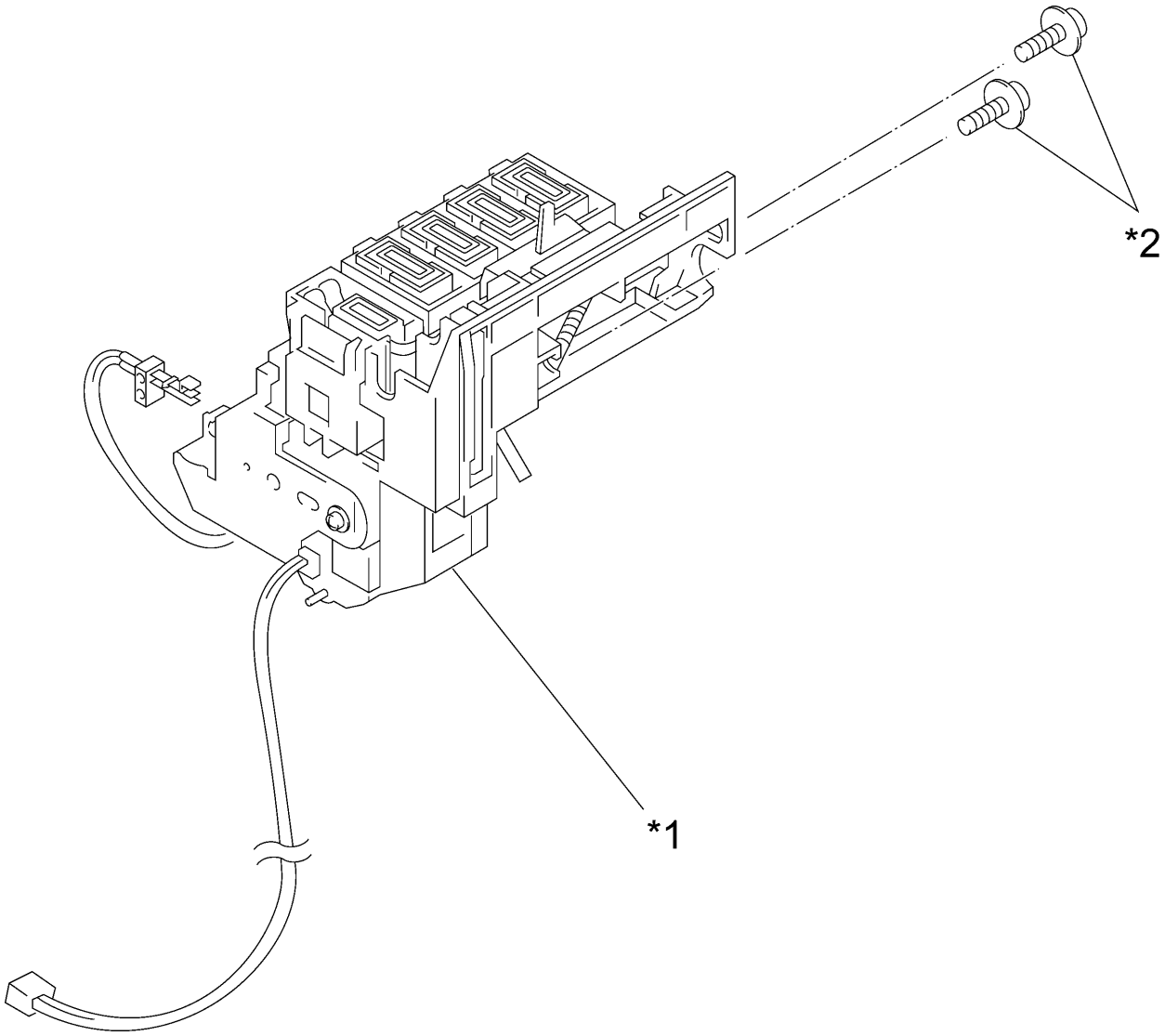
| 1 | LE2228001 | 1 | PAPER CASSETTE ASSY | |
| 1-1 | LE2234001 | 1 | SIDE PAPER GUIDE | |
| 1-2 | LE2235001 | 2 | GUIDE STOPPER | |
| 1-3 | LE2236001 | 1 | FRONT PAPER GUIDE | |
| 1-4 | LE2239001 | 1 | CASSETTE COVER | |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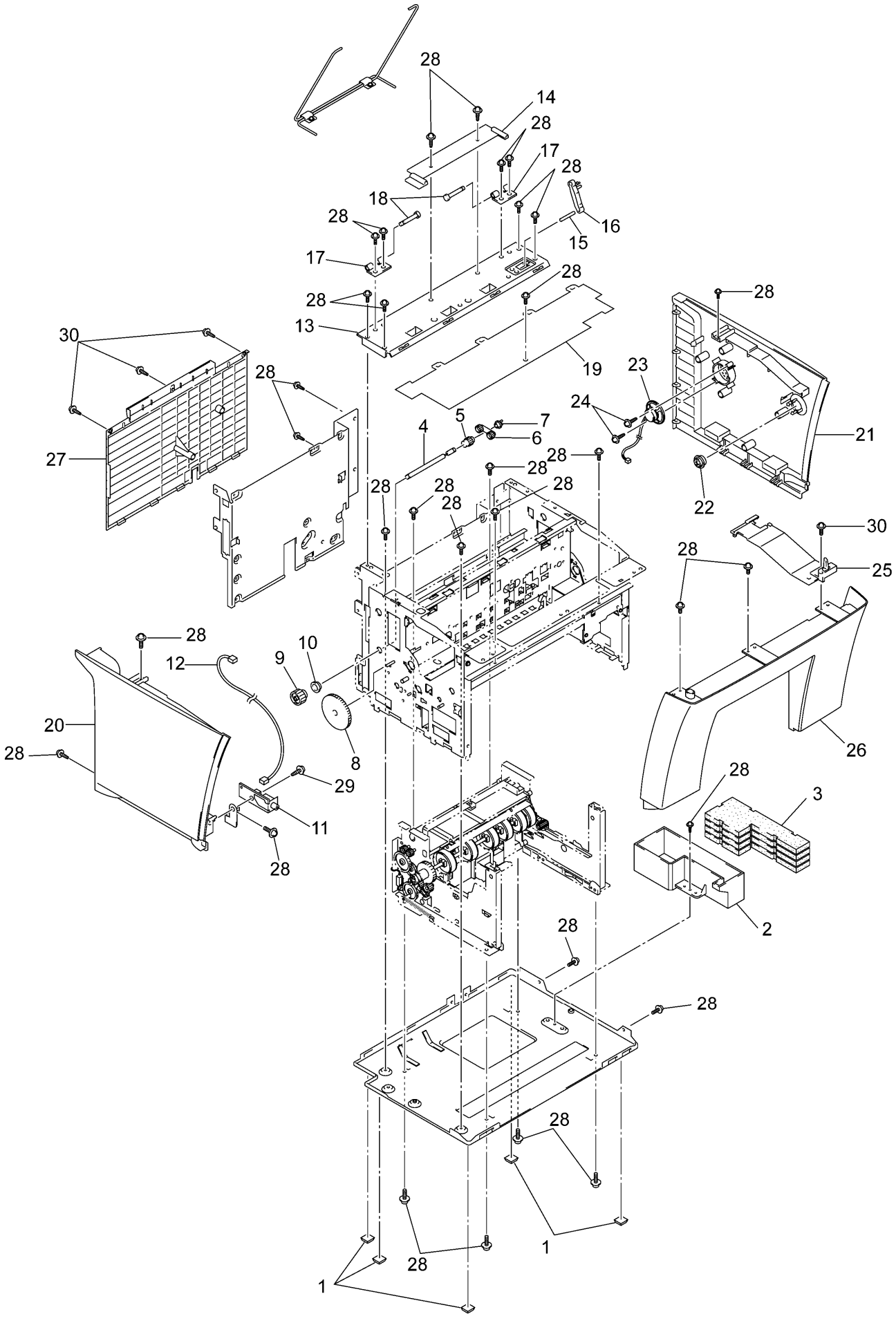
| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| *1 | LE2242001 | 1 | PURGE UNIT ASSY | |
| *2 | 0A5300605 | 2 | SCREW, PAN (S/P WASHER) M3X6 | |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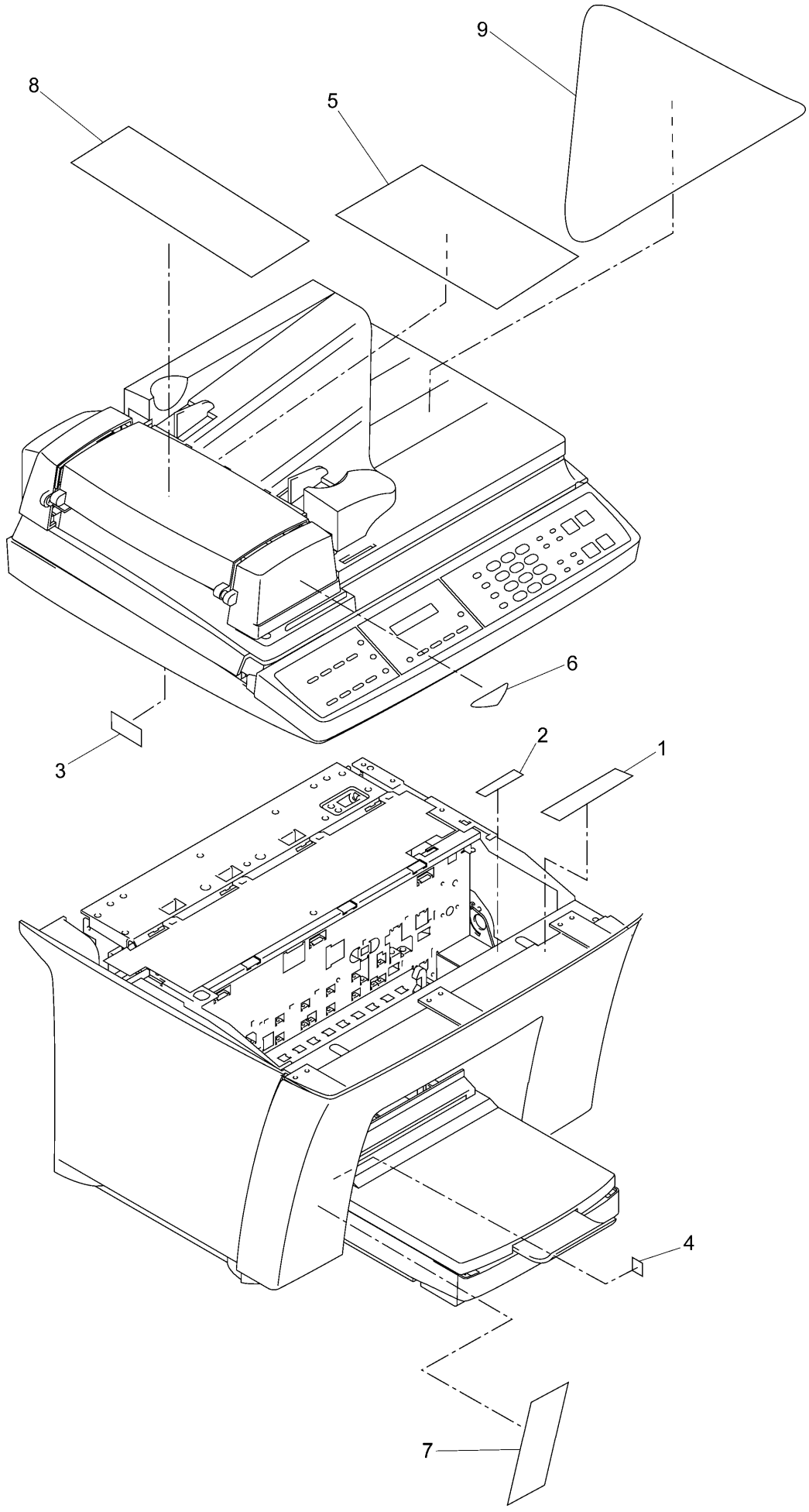
| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| 1 | UL5600001 | 5 | RUBBER FOOT | |
| 2 | LE2246001 | 1 | DRAIN TANK | |
| 3 | UU1198001 | 4 | INK ABSORBER | |
| 4 | LE2223001 | 1 | PAPER FEED SHAFT ASSY | |
| 5 | LE2225001 | 1 | GEAR M0.5/25 | |
| 6 | LE2226001 | 1 | ONE WAY ARM ASSY | |
| 7 | UU1290001 | 1 | CONDUCTIVE BUSHING | |
| 8 | LE2221001 | 1 | IDLE GEAR | |
| 9 | LE2222001 | 1 | GEAR M0.6/25 | |
| 10 | UF0022000 | 1 | BUSHING | |
| 11 | UG5717001 | 1 | VC CONNECTOR PCB ASSY | |
| 12 | LG2195001 | 1 | VC HARNESS | |
| 13 | LE2248001 | 1 | REAR FRAME | |
| 14 | LE2577001 | 1 | TORSION BAR SUPPORT | |
| 15 | LE2773001 | 1 | LINK SHAFT | |
| 16 | LE2758001 | 1 | LINK | |
| 17 | LE2252001 | 2 | HINGE PLATE | |
| 18 | LE2253001 | 2 | PIVOT PIN | |
| 19 | LE2545001 | 1 | COVER SHEET | |
| 20 | LE2260001 | 1 | SIDE COVER L, WHITE(1495) | |
| 21 | LE2263001 | 1 | SIDE COVER R, WHITE(1495) | |
| 22 | LE2264001 | 1 | OPEN BUTTON | |
| 23 | LG2187001 | 1 | SPEAKER | |
| 24 | UU1225001 | 2 | TAPTITE, CUP B M4X10 | |
| 25 | LE2265001 | 1 | INNER COVER, WHITE(1495) | |
| 26 | LE2266001 | 1 | FRONT COVER, WHITE(1495) | |
| 27 | LE2267001 | 1 | REAR COVER, WHITE(1495) FOR US/CAN | |
| 28 | LE2499001 | 1 | REAR COVER, WHITE(1495) FOR ARL/NZ/ASA | |
| 28 | 087320616 | 32 | TAPTITE, CUP S M3X6 | |
| 29 | 087310815 | 1 | TAPTITE, CUP B M3X8 | |
| 30 | 087321016 | 4 | TAPTITE, CUP S M3X10 | |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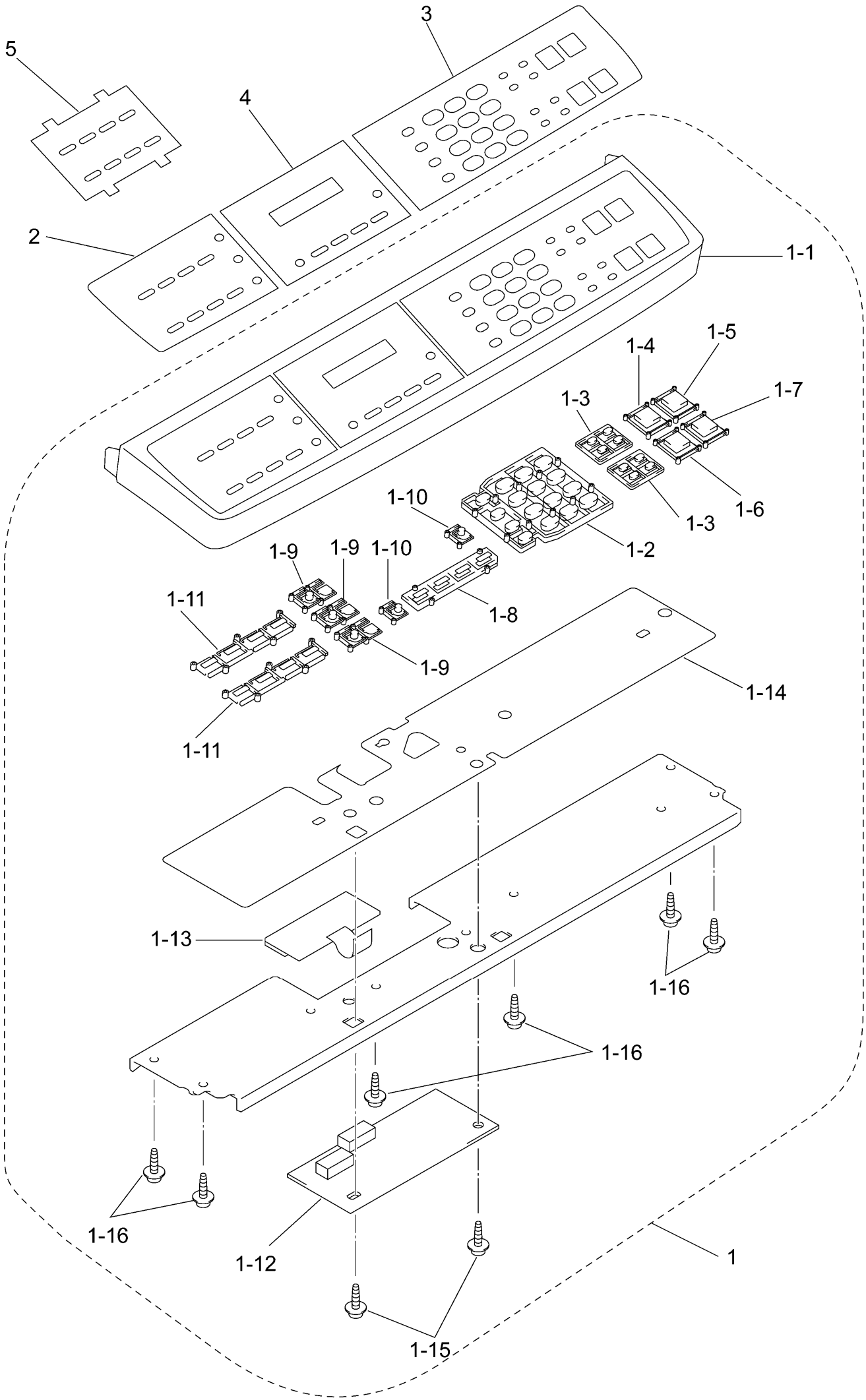
| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| 1 | UU1235001 | | INK REPLACEMENT INSTRUCTION LABEL | |
| 2 | UU1236001 | | HEAD GAP ADJUSTMENT INSTRUCTION LABEL | |
| 3 | LE2807001 | | SCANNER LOCK EXPLANATION LABEL | |
| 4 | LE2859001 | | PAPER JAM CLEARANCE INSTRUCTION LABEL | |
| 5 | UU0456001 | | PROTECTION PAPER | |
| 6 | UU1240001 | | COLOR MARK FOR US/CAN | |
| 6 | LE2498001 | | COLOR MARK FOR ARL/NZ/ASA | |
| 7 | LE2269001 | | MYLAR LABEL 9100-1 FOR US/CAN | |
| 8 | LE2270001 | | MYLAR LABEL 9100-2 FOR US/CAN | |
| 8 | LE2270006 | | MYLAR LABEL 9100-2 FOR ARL/NZ/ASA | |
| 9 | LE2533001 | | MYLAR LABEL 9100-3 FOR US/CAN | |
| 9 | LE2533006 | | MYLAR LABEL 9100-3 FOR ARL/NZ/ASA | |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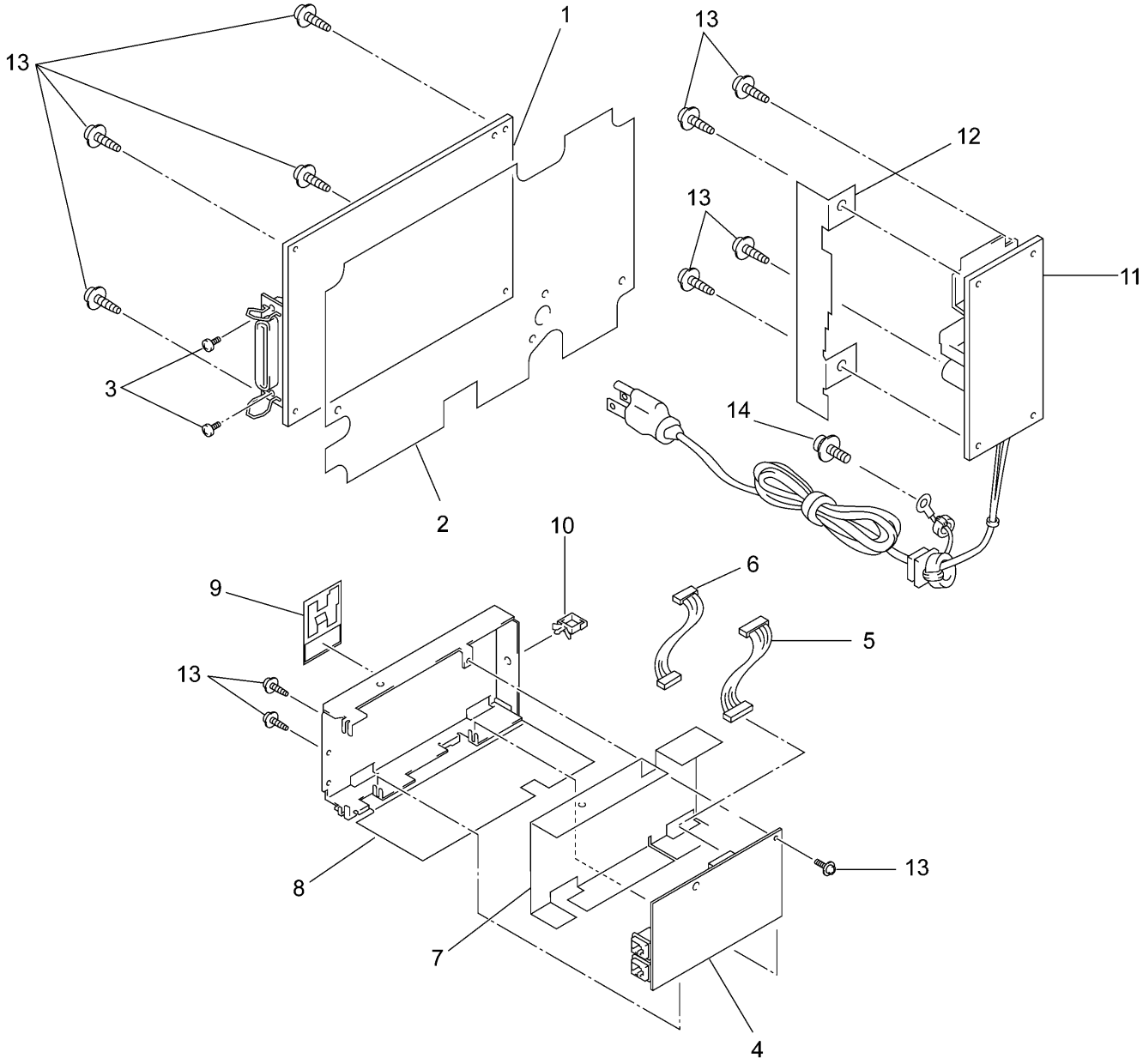
| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| 1 | LE2272001 | 1 | CONTROL PANEL ASSY, WHITE(1495) | |
| 1-1 | LE2273001 | 1 | CONTROL PANEL, WHITE(1495) | |
| 1-2 | UF4393007 | 1 | KEY, TEN, WHITE(1495) | |
| 1-3 | LE2274001 | 2 | KEY, COPY/FAX AREA, WHITE(1495) | |
| 1-4 | UF8174008 | 1 | KEY, MONO COPY, WHITE(1495) | |
| 1-5 | UF8174009 | 1 | KEY, COLOR COPY, GREEN(5159) | |
| 1-6 | UF8174010 | 1 | KEY, STOP, PINK(2205) | |
| 1-7 | UF8174011 | 1 | KEY, START, PURPLE(6255) | |
| 1-8 | UF8176009 | 1 | KEY, FUNCTION4, GRAY(1509) | |
| 1-9 | UF4576008 | 3 | KEY, SHIFT, WHITE(1495) | |
| 1-10 | UF4576010 | 2 | KEY, SHIFT, GRAY(1509) | |
| 1-11 | UF9118006 | 2 | KEY, ONE TOUCH, WHITE(1495) | |
| 1-12 | LG2138001 | 1 | CONTROL PANEL PCB ASSY | |
| 1-13 | UG4552000 | 1 | LCD | |
| 1-14 | LG2190001 | 1 | FPC KEY ASSY | |
| 1-15 | 087270815 | 2 | TAPTITE, CUP B M2.6X8 | |
| 1-16 | 087310615 | 6 | TAPTITE, CUP B M3X6 | |
| 2 | LE2277001 | 1 | PANEL SHEET-1 | |
| 3 | LE2278001 | 1 | PANEL SHEET-2 FOR US/CAN | |
| 3 | LE2844001 | 1 | PANEL SHEET-2 FOR ARL/NZ/ASA | |
| 4 | LE2279001 | 1 | LCD SHEET FOR US/CAN | |
| 4 | LE2845001 | 1 | LCD SHEET FOR ARL/NZ/ASA | |
| 5 | LE2280001 | 1 | ADDRESS LABEL | |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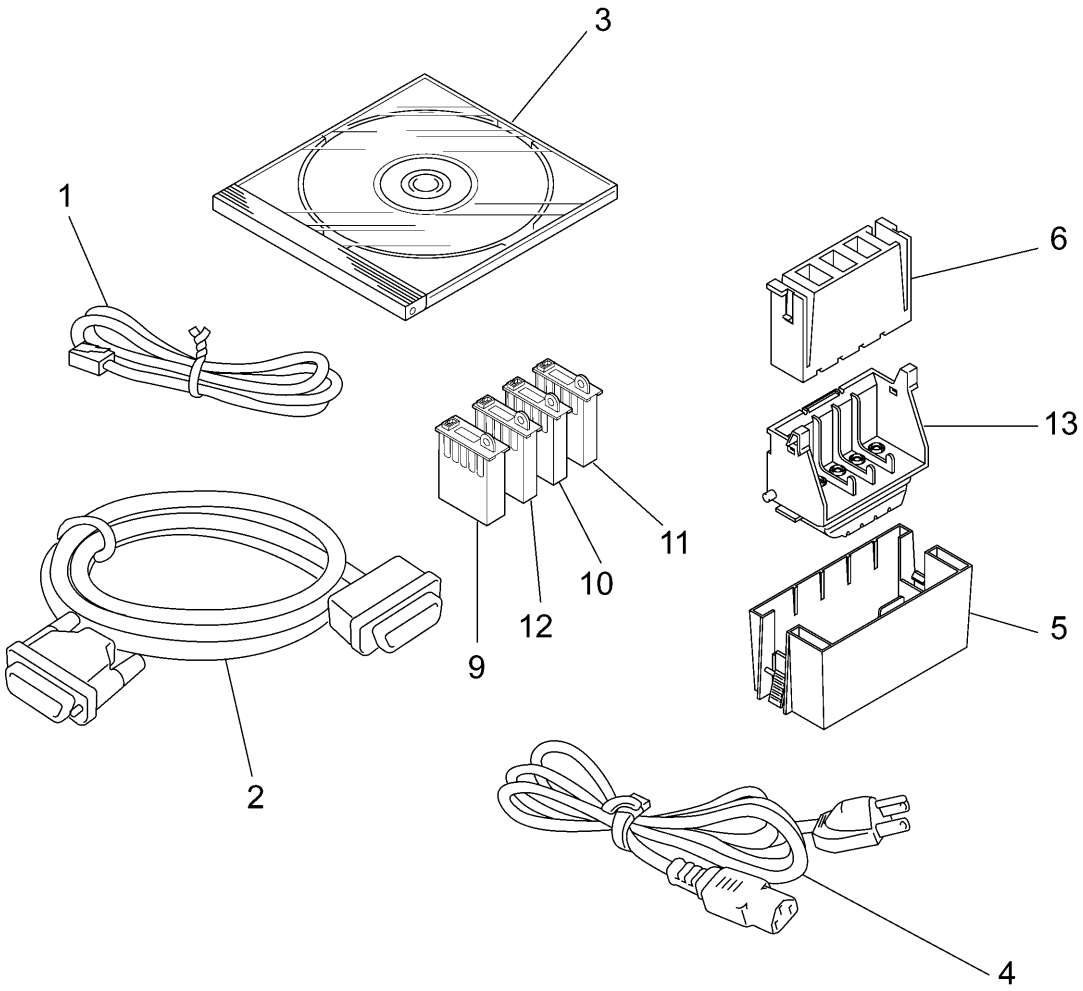
| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| 1 | LG2026001 | 1 | MAIN PCB ASSY FOR US/CAN | |
| 1 | LG2233001 | 1 | MAIN PCB ASSY FOR ARL/NZ/ASA | |
| 2 | LE2258001 | 1 | INSULATION FILM (MAIN) | |
| 3 | 002300615 | 2 | SCREW, PAN M3X6 | |
| 4 | LG2139001 | 1 | NCU PCB ASSY FOR US/CAN | |
| 4 | LG2311006 | 1 | NCU PCB ASSY FOR ARL/NZ | |
| 4 | LG2305040 | 1 | NCU PCB ASSY FOR ASA | |
| 5 | LG2140001 | 1 | NCU MAIN HARNESS | |
| 6 | LG2231001 | 1 | NCU MAIN HARNESS 2 FOR ARL/NZ/ASA | |
| 7 | LE2257001 | 1 | INSULATION FILM (NCU) | |
| 8 | LE2484001 | 1 | INSULATION FILM 2 (NCU) | |
| 9 | LE2543001 | 1 | CORE SUPPORT | |
| 10 | UG4163000 | 1 | CABLE CLAMP | |
| 11 | LE2878001 | 1 | POWER SUPPLY PCB, 115V SUPPLY ASSY FOR US/CAN (INCLUDING AC CABLE) | |
| 11 | UG5573001 | 1 | POWER SUPPLY PCB, 230V FOR ARL/NZ (EXCLUDING AC CABLE) | |
| 11 | UG5570001 | 1 | POWER SUPPLY PCB, 230V FOR ASA (EXCLUDING AC CABLE) | |
| 12 | LE2483001 | 1 | INSULATION FILM (POWER SUPPLY) | |
| 13 | 087320616 | 11 | TAPTITE, CUP S M3X6 | |
| 14 | UF6559001 | 1 | SCREW, PAN (WASHER) M4X8DB | |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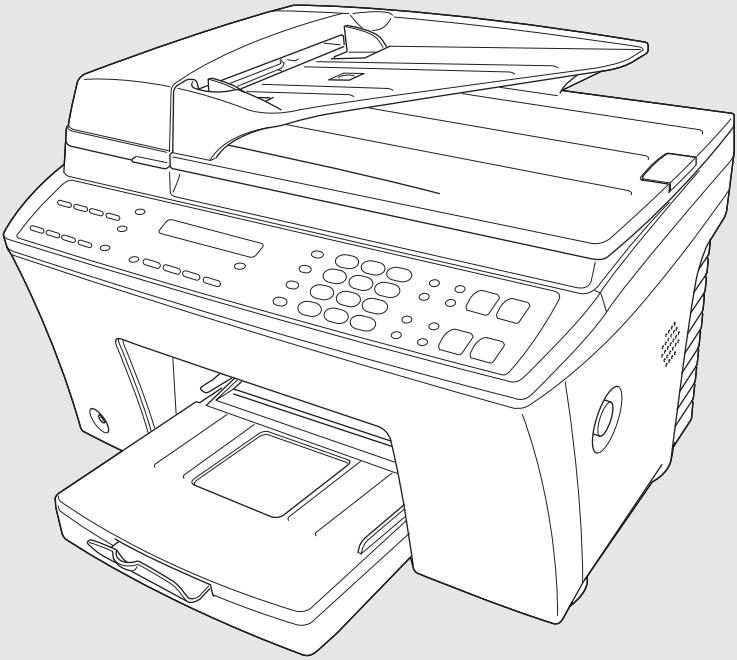
| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| 1 | UG3565001 | 1 | TELEPHONE LINE CORD FOR US/CAN/ASA | |
| 1 | UG3628001 | 1 | TELEPHONE LINE CORD FOR ARL | |
| 1 | UG3290001 | 1 | TELEPHONE LINE CORD FOR NZ | |
| 2 | UG4558001 | 1 | INTERFACE CABLE | |
| 3 | LE2281001 | 1 | CD-ROM ASSY FOR US/CAN | |
| 3 | LE2846001 | 1 | CD-ROM ASSY ARL/NZ/ASA | |
| 4 | LG2162001 | 1 | AC CORD FOR ARL/NZ | |
| 4 | LG2086001 | 1 | AC CORD FOR ASA | |
| 5 | ZA0423001 | 1 | HEAD NOZZLE SEALS (INCLUDING 10PCS) | |
| 6 | ZA0424001 | 1 | HEAD FILTER SEALS (INCLUDING 10PCS) | |
| (7) | ZA0310001 | 1 | HEAD CLEANER STICK ASSY | |
| (8) | ZA0509001 | 1 | GLYCEROL CLEANING FLUID 02 (INCLUDING 4 CARTRIDGES) | |
| 9 | ZA0492001 | 1 | BLACK INK CARTRIDGES (INCLUDING 100PCS) | |
| 10 | ZA0495001 | 1 | CYAN INK CARTRIDGES (INCLUDING 100PCS) | |
| 11 | ZA0498001 | 1 | MAGENTA INK CARTRIDGES (INCLUDING 100PCS) | |
| 12 | ZA0501001 | 1 | YELLOW INK CARTRIDGES (INCLUDING 100PCS) | |
| 13 | ZA0504001 | 1 | PRINT HEADS HD002 (INCLUDING 10PCS) | |
| (14) | ZA0304001 | 1 | INITIAL LIQUID ASSY | |
| (15) | LE0026001 | 1 | FOAM EMPTY CARTRIDGE | |
| (16) | LE0025001 | 1 | EMPTY CARTRIDGE | |
| (17) | UF9258001 | 1 | COLOR TEST CHART CTC-001 | |
| (18) | UF4600001 | 1 | CONTRAST CHECK CHART TC-023 | |

| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| (1) | LE2285001 | 1 | OWNER'S MANUAL ASSY FOR US<br>(INCLUDING OWNER'S MANUAL(1-1), TEST SHEET,<br>REORDER FORM, QUICK REFERENCE GUIDE, WARRANTY CARD,<br>AND LICENSE GUIDE) | |
| (1) | LE2554001 | 1 | OWNER'S MANUAL ASSYFOR CAN<br>(INCLUDING OWNER'S MANUALS(1-1), REORDER FORM,<br>QUICK REFERENCE GUIDE, WARRANTY CARD, LICENSE GUIDE,<br>TECH ASSIST PAGE AND PANEL STICKER) | |
| (1) | LE2848001 | 1 | OWNER'S MANUAL ASSY FOR ARL/ASA<br>(INCLUDING OPERATIONS MANUAL(1-1), MFL MANUAL(1-2)<br>AND LICENSE GUIDE) | |
| (1) | LE2855001 | 1 | OWNER'S MANUAL ASSY FOR NZ<br>(INCLUDING OPERATIONS MANUAL(1-1), MFL MANUAL(1-2)<br>AND LICENSE GUIDE) | |
| (1-1) | LE2286001 | 1 | OWNER'S MANUAL FOR US | |
| (1-1) | LE2555001 | 1 | OWNER'S MANUAL FOR CAN<ENGLISH> | |
| (1-1) | LE2557001 | 1 | OWNER'S MANUAL FOR CAN<FRENCH> | |
| (1-1) | LE2286006 | 1 | OPERATIONS MANUAL FOR ARL/ASA | |
| (1-1) | LE2286027 | 1 | OPERATIONS MANUAL FOR NZ | |
| (1-2) | LE2849001 | 1 | MFL MANUAL FOR ARL/NZ/ASA | |

| REF.NO. | CODE | Q'TY | DESCRIPTION | REMARKS |
|---|---|---|---|---|
| (1) | LE2287001 | 1 | CARTON, BROTHER MFC9100C FOR US | |
| (1) | LE2559001 | 1 | CARTON, BROTHER MFC9100C FOR CAN | |
| (1) | LE2850006 | 1 | CARTON, BROTHER MFC9100C FOR ARL/NZ/ASA | |
| (2) | LE2288001 | 1 | STYROFOAM ASSY | |
| (3) | LE2565001 | 1 | POLY-ETHYLENE BAG FOR MACHINE, 900X1000 | |
| (4) | LE2291001 | 1 | CARTON, FOR MANUAL | |
| (5) | LE2292001 | 1 | PAD, 320X240 | |

PL5CA203 Ver. B

OWNER'S MANUAL



# MFC 9100C

brother

## If You Need to Call Customer Service

**Please complete the following information for future reference:**

**Model Number:** **MFC 9100C**

**Serial Number:*** _____

**Date of Purchase:** _____

**Place of Purchase:** _____

*** The serial number is on the back of the unit. Retain this manual with your *sales receipt* as a permanent record of your purchase, in the event of a theft, fire or warranty service.**

## Year 2000 Compliant

Brother is addressing the Year 2000 related issues for all Brother fax machines and multi-function centers. Our focus is to ensure that our bundled third-party software will continue to properly process date/time data after January 1, 2000.

Brother fax machines and multi-function centers will function properly after January 1, 2000, *provided that* all non-Brother hardware, software and firmware used by our customers in connection or combination with Brother fax machines, MFCs and bundled software, accurately exchange date data with the Brother products.

Please continue to check our Web page for updates at **http://www.brother.com**. All remedies will be provided to individual customers via software patches through software download or from Brother Customer Service.

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# Brother Numbers

## Fax-Back System

Brother Customer Service has installed an easy-to-use Fax-Back System, so you can get instant answers to common technical questions and product information for all Brother products. This system is available 24 hours a day, 7 days a week. You can use the system to send faxes to any fax machine, not just the one from which you are calling.

If you can't resolve a difficulty with your MFC using this manual, call our Fax-Back System, and follow the voice prompts to receive faxed instructions about using the system and an index of Fax-Back subjects.

| | |
|---|---|
| **USA:** | 1-800-521-2846 |
| **From within Canada:** | 1-800-681-9838 |

The Brother Fax-Back System number (USA Only) has been preprogrammed on One Touch key 01.

## Brother on the World Wide Web

You can find more information about Brother products, from product specification sheets to Frequently Asked Questions (FAQs), on the World Wide Web. Visit us at

**http://www.brother.com**

## Brother Bulletin Board

Brother's Bulletin Board Numbers are

| | |
|---|---|
| **USA:** | 1-888-298-3616 |
| **From within Canada:** | 1-514-685-2040 |

## For Customer Service

| | |
|---|---|
| **USA:** | 1-800-284-4329 (voice)<br>1-908-575-8790 (fax) |
| **From within Canada:** | 1-800-853-6660 (voice)<br>1-514-685-4898 (fax) |
| **From within Montreal:** | 1-514-685-6464 (voice) |

# Ordering Accessories and Supplies

For best quality results use only genuine Brother accessories, available at most Brother retailers. If you cannot find the accessory you need and you have a Visa, MasterCard, Discover, or American Express credit card, you can order accessories directly from Brother. (In the USA, you can visit us online for a complete selection of Brother accessories and supplies available for purchase.)

**USA:** 1-888-879-3232 (voice)
1-800-947-1445 (fax)
http://www.brothermall.com

**From within Canada:** 1-800-668-2768 (voice)

| Description | Item |
|---|---|
| Ink Cartridge <black> | LC02BK |
| Ink Cartridge <cyan>(blue) | LC02C |
| Ink Cartridge <magenta>(red) | LC02M |
| Ink Cartridge <yellow> | LC02Y |
| 360 dpi High Quality Coated Paper | BP36CL |
| 720 dpi High Quality Coated Paper | BP72CL |
| Glossy Paper | BPGLL |
| Transparancies | BPTRL |
| Print Head | HD002 |
| Power Protector | QPD120 |
| Telephone Line Cord | (For USA) UG1570001<br>(For Canada) UG3565001 |
| IEEE-1284 Bi-directional Cable | UG4558001 |
| Reference Guide for Improving Print Quality | (For USA) LE2532001<br>(For Canada) LE2556001 |
| Owner's Manual | (For USA) LE2286001<br>(For Canada) LE2557001 |
| * Brother MFC-9100 Series Software on floppy disks (Includes MFL Pro and PaperPort® Only) | DSK9131 (Floppy Disks Windows® 3.1*x*)<br>DSK9195 (Floppy Disks Windows® 95/98) |

* Software on Floppy disks is not available for Windows NT® Workstation Version 4.0.

Brother Coated Paper is Ink Jet Paper.

# Notice – Disclaimer of Warranties

## (For USA and Canada)

BROTHER'S LICENSOR(S), AND THEIR DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS (COLLECTIVELY BROTHER'S LICENSOR) MAKE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE SOFTWARE. BROTHER'S LICENSOR(S) DOES NOT WARRANT, GUARANTEE OR MAKE ANY REPRESENTATIONS REGARDING THE USE OR THE RESULTS OF THE USE OF THE SOFTWARE IN TERMS OF ITS CORRECTNESS, ACCURACY, RELIABILITY, CURRENTNESS OR OTHERWISE. THE ENTIRE RISK AS TO THE RESULTS AND PERFORMANCE OF THE SOFTWARE IS ASSUMED BY YOU. THE EXCLUSION OF IMPLIED WARRANTIES IS NOT PERMITTED BY SOME STATES IN THE USA AND SOME PROVINCES IN CANADA. THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

IN NO EVENT WILL BROTHER'S LICENSOR(S) BE LIABLE TO YOU FOR ANY CONSEQUENTIAL, INCIDENTAL OR INDIRECT DAMAGES (INCLUDING DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, AND THE LIKE) ARISING OUT OF THE USE OR INABILITY TO USE THE SOFTWARE EVEN IF BROTHER'S LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES IN THE USA AND SOME PROVINCES IN CANADA DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. IN ANY EVENT BROTHER'S LICENSOR'S LIABILITY TO YOU FOR ACTUAL DAMAGES FROM ANY CAUSE WHATSOEVER, AND REGARDLESS OF THE FORM OF THE ACTION (WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY OR OTHERWISE), WILL BE LIMITED TO $50.

# BROTHER ONE YEAR LIMITED WARRANTY and EXCHANGE SERVICE
## (For MFC 9100C Only)
## (For USA Only)

This warranty gives you certain rights and you may also have other rights that may vary from state to state.

This warranty is given only to the end-use purchaser of the accompanying product (referred to in this warranty as "this Product").

**What is covered:** Brother warrants to you for the Warranty Period that there are no defects in the materials, workmanship or Year 2000 compliance of this Product. The "Warranty Period" is 1 year from the date you purchased this product. The "Warranty Period" for consumable items, such as Ink Cartridges, Print Heads, etc. is 90 days from the date of purchase, or the rated life of the Consumable item, whichever is shorter.

**What is NOT covered:** This warranty is VOID — that is, this Product has no warranty — if: (1) you did not purchase this Product from an authorized Brother reseller within the United States, (2) this Product has been serviced, modified or tampered with by anyone other than an Authorized Service Representative of Brother, (3) the serial number has been modified, defaced or removed from this Product, (4) this Product has been abused or damaged, (5) non Brother®-brand or non Brother approved parts, supplies, power supplies or other accessories have been used with this Product, or (6) this Product has been transported without the proper preparation and packaging.

**What to do if you think your Product is defective:**

Call our Customer Service Hotline at 1-800-284-4329, or if you suspect a defect in materials or workmanship in this Product, you can report it to a Brother Authorized Service Center. During the Warranty Period, supply Brother's representative with a copy of your dated bill of sale showing that this Product was purchased within the United States.

For the name of your Brother Authorized Service Center, call 1-800-521-2846. After contacting the Brother Authorized Service Center, you may be required to deliver or send the Product properly packaged, freight prepaid, to the Authorized Service Center together with a photocopy of your bill of sale.

**What Brother will do:** Brother (or its Authorized Service Center) will evaluate your report of a possible defect to determine whether a defect exists, and if it does exist, Brother (or its Authorized Service Center) will repair or (at Brother's option) replace the Product with a product that performs the same functions and performs as well as the original Product. Brother reserves the right to supply refurbished or remanufactured replacement products provided that the replacement products conform to the manufacturer's specifications for new products. The repaired or replacement product will be returned to you at no cost.

**Exchange Service:**

Exchange service will expedite, in most instances by the next business day, the exchange of your non working Product with a refurbished or remanufactured product that conforms to the manufacturer's specifications for new products. The refurbished or remanufactured Product you receive will be covered by the balance of the limited warranty period remaining on the original Product, plus an additional thirty (30) days. You will keep the replacement Product that is sent to you and must return (or be billed up to the cost of a new product) your original non working product, which shall become the property of Brother. You must call Brother Customer Service and if the representative cannot correct the product's malfunction over the telephone and you elect the exchange service, you must provide information pertaining to this Product and you must also provide a valid major credit card number. Your credit card will be charged up to the cost of a new

# BROTHER ONE YEAR LIMITED WARRANTY and EXCHANGE SERVICE
## (For MFC 9100C Only)
## (For USA Only)

Product if: (i) you do not return your original Product to Brother within five (5) business days; (ii) the malfunctions of your original Product are not covered by the limited warranty; (iii) the proper packaging instructions are not followed and has caused damage to the product; or (iv) the warranty period on your original Product has expired or has not been sufficiently validated with a copy of the proof of purchase (bill of sale). The Brother Customer Service Representative will ship the exchange Product via next business day delivery courier service, with return instructions and prepaid return airbill.

Follow the return instructions. You must return the original Product in the same shipping carton in which the exchanged Product was received and include a copy of proof of purchase (bill of sale). Retain your original accessory items and a copy of the return airbill, signed by the courier.

**Limitations:**

Repair or replacement as described above is your sole and exclusive (that is, your only) remedy if this Product is defective. Brother is not responsible for damage to or loss of any equipment, media, programs or data related to the use of this Product. Except for that repair or replacement, *Brother shall not be liable for any direct, indirect, incidental or consequential damages or specific relief. Because some states do not allow the exclusion or limitation of consequential or incidental damages, the above limitation may not apply to you.*

THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, WHETHER EXPRESSED BY AFFIRMATION, PROMISE, DESCRIPTION, DRAWING, MODEL OR SAMPLE. ANY AND ALL WARRANTIES OTHER THAN THIS ONE, WHETHER EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED.

This Limited Warranty is the only warranty that Brother is giving for this Product. It is the *final expression and the exclusive and only statement* of Brother's obligations to you. It replaces all other agreements and understandings that you may have with Brother or its representatives.

This Limited Warranty (and Brother's obligation to you) may not be changed in any way unless you and Brother sign the same piece of paper in which we (1) refer to this Product and your bill of sale date, (2) describe the change to this warranty and (3) agree to make that change.

**Product Support:** Toll-free customer service and technical support is available for hardware operational assistance at 1-800-284-4329. At any time, free technical support in the form of Frequently Asked Questions, troubleshooting tips and service center locator is available through our fax back system at 1-800-521-2846 or Brother's Internet Web Site (www.brother.com). Now you can visit us on-line (www.brothermall.com), your complete source for genuine Brother Accessories and Supplies.

**BROTHER INTERNATIONAL CORPORATION**
**100 SOMERSET CORPORATE BLVD.**
**BRIDGEWATER, NEW JERSEY 08807-0911**

Please record your model and serial number and your date and location of Purchase below for your records. Keep this information with your proof of purchase (bill of sale) in case your Product is lost, stolen or requires service.

Model #

Serial #

Date of purchase:

Store where purchased:

Location of store:

***Important:*** *We recommend that you keep all original packing materials, in the event that you ship this product.*

## BROTHER MULTIFUNCTION CENTER/FACSIMILE MACHINE LIMITED WARRANTY

## (For Canada Only)

Pursuant to this limited warranty of 1 year from the date of purchase for labour and parts, Brother International Corporation (Canada) Ltd. ("Brother"), or its Authorized Service Centers, will repair this MFC/Facsimile machine free of charge if defective in material or workmanship. This Limited Warranty does not include cleaning, consumables (including, without limitation, ink cartridges and print heads) or damage caused by accident, neglect, misuse or improper installation or operation, any damage caused from service, maintenance, modifications, or tampering by anyone other than a Brother Authorized Service Representative, or from the use of supplies or consumable items that are non-Brother products. Operation of the MFC/ Facsimile machine in excess of the specifications or with the Serial Number or Rating Label removed shall be deemed abuse and all repairs thereafter shall be the sole liability of the end-user/purchaser. In order to obtain warranty service, the MFC/Facsimile machine must be delivered or shipped freight prepaid by the end user/purchaser to a "Brother" Authorized Service Center, together with your Proof of Purchase in the form of a Sales Receipt.

For laser products: Failure to remove the Toner Cartridge (and Toner Drum Unit on applicable models) during shipping will cause severe damage to the MFC/Facsimile and will VOID the Warranty. (Refer to your Operation Manual for proper packaging.)

For ink-jet products: Do not remove the ink cartridges during shipping. Damage to your print head resulting from packing without the ink cartridges will VOID your warranty. (Refer to your Operation Manual for proper packaging.)

BROTHER DISCLAIMS ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXCEPT TO THE EXTENT THAT ANY WARRANTIES IMPLIED BY LAW CANNOT BE VALIDLY WAIVED.

No oral or written information, advice or representation provided by Brother, its Authorized Service Centers, Distributors, Dealers, Agents or employees, shall create another warranty or modify this warranty. This warranty states Brother's entire liability and your exclusive remedy against Brother for any failure of the MFC/Facsimile machine to operate properly.

Neither Brother nor anyone else involved in the development, production, or delivery of this MFC/Facsimile machine shall be liable for any indirect, incidental, special, consequential, exemplary, or punitive damages, including lost profits, arising from the use of or inability to use the product, even if advised by the end user/purchaser of the possibility of such damages. Since some Provinces do not allow the above limitation of liability, such limitation may not apply to you.

This Limited Warranty gives you specific legal rights and you may also have other rights which vary from Providence to Providence.

**Warranty Service is available at Brother Authorized Service Centers throughout Canada. For Technical Support or for the name and location of your nearest Authorized Service Center call 1-800-853-6660. Within Montreal, please call 685-6464. Internet support: support@brother.ca or browse Brother's Web Site: www.brother.com**

Brother International Corporation (Canada) Ltd.
1 Rue Hôtel de Ville
Dollard-Des-Ormeaux, QC H9B 3H6

We're at your side.

brother®

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# 1 Introduction

## Using This Manual

Thank you for purchasing a Brother Multi-Function Center (MFC). This MFC has been designed to be simple to use, with LCD screen prompts to guide you through functions. However, you can use your MFC to its fullest potential by taking a few minutes to read this manual.

Additionally, your MFC has a Help Key. Press Help to print a list of basic operational steps and functions.

### Finding Information

All chapter headings and subheadings are listed in the Table of Contents. You will be able to find information about a specific feature or function by checking the Index in the back of this manual. Also, throughout this manual, you'll see special symbols alerting you to important information, cautions to avoid damaging the machine, and warnings to avoid hurting yourself. Illustrations of some screen displays also help you choose the correct key-presses.

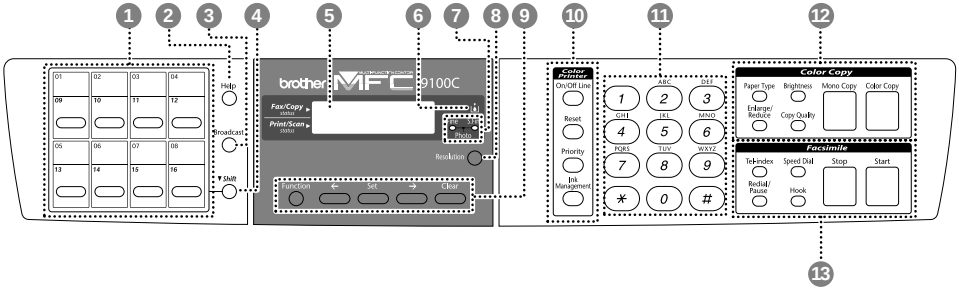
## Test Sheet Procedures (For USA Only)

After programming your Station ID, please fill out the TEST SHEET included with your MFC and fax it to Brother's Automated Fax Response System as your first transmission. This will verify that your MFC is properly installed. (See *Setting Station ID*, pages 4-2 to 4-3.)

When this document is received, a confirmation sheet will be sent back to your MFC. In order to receive a response, be sure to set up your Station ID.

**USA** 1-908-685-9283 (fax)

# MFC 9100C Control Panel Overview




**1 One Touch Keys**
These 8 keys give you instant access to previously stored phone numbers.

**2 Help**
Whenever the Date and Time are displayed on the LCD, you can press this key to print a quick reference Help List. The Help List shows how to program functions, register information and how to get basic information.

**3 Broadcast**
Use this key when you want to broadcast the same fax to many different locations (maximum of 166 locations at once).

**4 ▼ Shift**
To access memory locations 9 through 16 in the One Touch keys hold down the Shift key.

**5 LCD (Liquid Crystal Display)**
LCD displays messages to help you set and operate your MFC.

**6 Ink Empty Indicator**
Blinks when ink cartridge is low and stays lit when ink is empty.

**7 Resolution Indicator Lights**
These LEDs show the resolution mode you selected.

**8 Resolution**
Sets the resolution when you send a fax.

**9 Programming Keys:**

**Function**
Lets you access the function and programing mode

**← (Left Arrow)**
**→ (Right Arrow)**
Moves the LCD cursor through text and options.

**Set**
Stores a function setting in the MFC.

**Clear**
Deletes entered data or backs up one step in function procedure.

## 10 Color Printer Keys:

### On/OffLine
Use this key to turn the printer online (ready to receive PC data) and offline (not ready to receive PC data) alternately. When the printer is online, the LCD displays ONLINE.

### Reset
Clears data from the printer memory, and then resets and restores to the factory default settings.

### Priority
Press this key to receive all faxes in memory without first printing them.

### Ink Management
Cleans the ink print heads and/or resets the ink dot counter after replacing and ink cartridge.

## 11 Dial Pad
Dials phone and fax numbers, and can be used as a keyboard for entering information into the MFC.

## 12 Color Copy Keys:

### Paper Type
Use this key to temporarily change the paper type setting for Copy and Video Printing modes.

### Brightness
Lets you adjust the brightness of the whole image to be lighter or darker.

### Enlarge/Reduce
Lets you reduce or enlarge copies depending on the ratio you select.

### Copy Quality
Use this key to temporarily change the quality for Copy and Video Printing modes.

### Mono Copy
Makes a black-and-white or single-color copy.

### Color Copy
Makes a full-color copy.

## 13 Facsimile Keys:

### Tel-index
Lets you look up numbers stored in the dialing memory.

### Speed Dial
Lets you dial stored phone numbers by pressing a two-digit number.

### Redial / Pause
Redials the last number called. Also inserts a pause in autodial numbers.

### Hook
Lets you dial fax numbers.

### Stop
Stops a fax, cancels an operation, or exits from function mode.

### Start
Starts an operation, such as sending a fax.

# About Fax Machines

If you're a first-time fax machine user, fax operation might seem a little mysterious. Soon, you'll recognize the unusual fax tones on your phone line, and be able to send and receive faxes easily.

## Fax Tones and Handshake

When someone is sending a fax, the MFC sends fax calling tones, (CNG tones)—soft, intermittent beeps at 4-second intervals. You'll hear them when you dial and press Start, and they continue for about 40 seconds after dialing. During that time, the sending machine must begin the "handshake" with the receiving machine. Each time you use automatic procedures to send a fax, you are sending CNG tones over the phone line. You'll soon learn to listen for these soft beeps each time you answer a phone on your MFC line, so you can know if you are receiving a fax message.

The receiving fax responds with fax receiving tones—loud, chirping sounds. A receiving fax chirps for about 40 seconds over the phone line, and the screen displays RECEIVING. If your MFC is set to the FAX mode, it will answer every call automatically with fax receiving tones. Even if the other party hangs up, your MFC continues to send the "chirps" for about 40 seconds, and the screen continues to display RECEIVING.

The fax "handshake" is the time in which the sending machine's CNG tones and the receiving machines "chirps" overlap. This must be for at least 2 to 4 seconds, so the fax machines can understand how each is sending and receiving the fax. The handshake cannot begin until the call is answered, and the CNG tones last for only about 40 seconds after the number is dialed. Therefore, it's important for the receiving machine to answer the call in as few rings as possible.

When you have an external telephone answering device (TAD) on your MFC line, your TAD will determine the number of rings before the call is answered. Pay special attention to the directions in the Assembly and Connections chapter for connecting a TAD to your MFC.

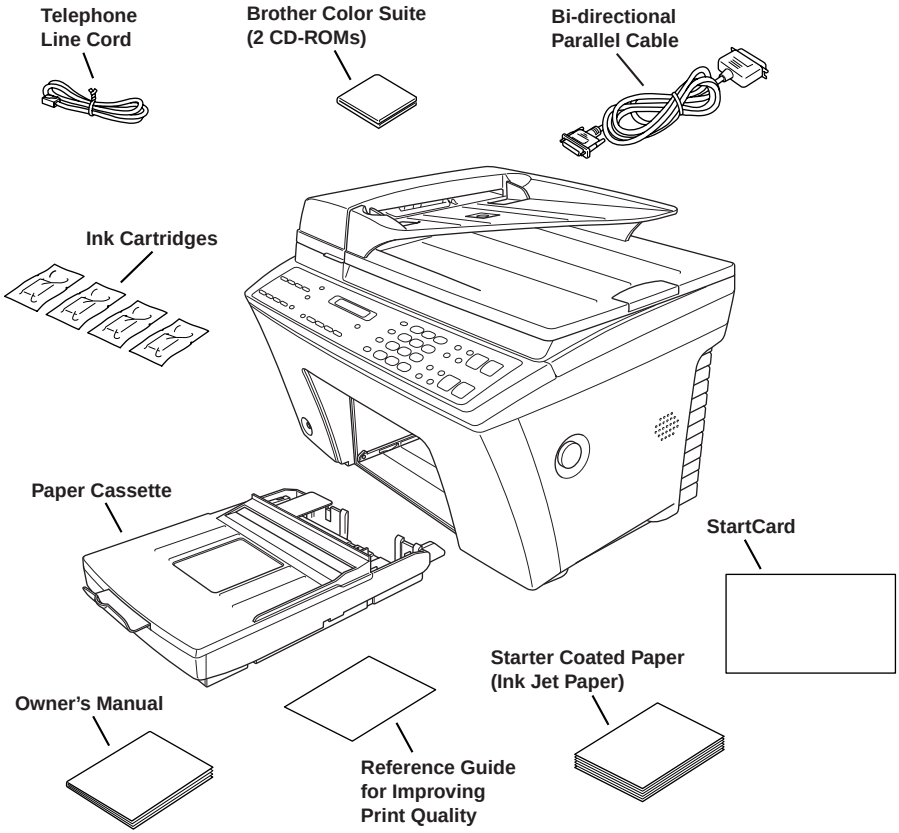
## ECM (Error Correction Mode)

The Error Correction Mode (ECM) is a way for the machine to check the integrity of a fax transmission while it is in progress. ECM transmissions are possible only between machines that both have the ECM feature. If they do, you may send and receive fax messages that are continuously checked for their integrity. Sufficient memory must be available in your machine for this feature to work.

# 2 Assembly and Connections

## Packing List

**Make sure you have the following items:**




If an item is missing, call Brother Customer Service at 1-800-284-4329 (**USA**), 1-800-853-6660 (**from within Canada**) or 1-514-685-6464 (**from within Montreal**). See *Ordering Accessories and Supplies* on page ii for the correct item numbers.

Whenever you transport the MFC, use the packing materials that came with your MFC. If you do not pack the MFC correctly, you may void your warranty.

# Choosing a Location

Place your MFC on a flat, stable surface, such as a desk. Select a place that is free of vibration and shocks. Locate the MFC near a telephone jack and a standard, grounded power outlet. Choose a location where the temperature remains between 50°F and 95°F (10°–35°C).

Avoid placing your MFC in a high-traffic area. Do not place near heaters, air conditioners, water, chemicals, or refrigerators. Do not expose the MFC to direct sunlight, excessive heat, moisture, or dust. Do not connect your MFC to electrical outlets controlled by wall switches or automatic timers. Disruption of power can wipe out information in the MFC's memory. Do not connect your MFC to electrical outlets on the same circuit as large appliances or other equipment that might disrupt the power supply. Avoid interference sources, such as speakers or the base units of cordless phones.

## WARNING

- Use caution when installing or modifying telephone lines. Never touch telephone wires or terminals that are not insulated unless the telephone line has been disconnected at the wall jack. Never install telephone wiring during a lightning storm. Never install a telephone jack in a wet location unless the jack is specifically designed for a wet location.
- Lightning and power surges can damage this product! We recommend that you use a quality surge protection device on the AC power line and on the telephone line, or unplug the lines during a lightning storm.
- For PLUGGABLE EQUIPMENT, the socket-outlet should be installed near the equipment and should be easily accessible.
- To reduce the risk of shock or fire, use only a No. 26 AWG or larger telecommunication line cord.

### IMPORTANT SAFETY INSTRUCTIONS

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.

# Paper

The quality of your document can be affected by the kind of paper you use in the MFC. You can use plain paper, coated paper, transparencies, glossy paper, organizer paper, and envelopes. We recommend testing various paper types before purchasing large quantities. For best results, use genuine Brother special coated paper, glossy paper, and transparencies. (See page ii for information about ordering Brother accessories.)

When you print on coated paper, transparencies, and glossy paper, be sure to select the correct media in the "Quality/Color" tab in the printer driver. When using coated paper or transparencies, avoid stacking by removing each page after it exits the machine.

## About Brother Paper

Brother paper is manufactured specifically for this MFC, to provide you optimum print quality:

**Quality Coated Paper for 360 dpi Color Ink Jet printing**—normal mode (BP36CL for letter)

**High Quality Coated Paper for 720 dpi Color Ink Jet printing**—super fine mode (BP72CL for letter)

**Color Ink Jet Transparencies**— fine mode (BPTRL for letter)

**Color Ink Jet Glossy Paper**— superfine mode (BPGLL for letter)

- Brother coated (ink jet) paper is coated only on one side. Make sure this whiter (coated) side is *face down* when loading in the paper cassette, or manual feed slot.
- The coated side of glossy paper is shiny. Do not touch the shiny side. Load glossy paper in the paper cassette with the shiny side facing down.
- Do not touch either side of transparencies, because perspiration is absorbed easily and may decrease output quality.
- For optimum output quality, use paper that is appropriate for your resolution setting.
- Store paper in the original bag, and keep it sealed. Keep paper flat and away from moisture, direct sunlight and heat.

- Transparencies designed for laser printers/copiers may stain your next document. Use only recommended transparencies.

⊘ Curled or damaged paper may cause paper jams and misfeeds. If the paper is curled, straighten it as much as possible by rolling it in the opposite direction of the curl.

⊘ Do not use the following types of paper and envelopes:

- Damaged, curled, wrinkled, or irregularly shaped paper and envelopes
- Extremely shiny or highly textured paper and envelopes
- Envelopes with clasps
- Envelopes of baggy construction
- Envelopes not sharply creased
- Embossed envelopes
- Paper and envelopes already printed with a laser printer
- Envelopes preprinted on the inside
- Paper and envelopes that cannot be arranged uniformly when stacked

### Paper Specifications for Paper Cassette and Manual Feed Slot

| Paper Type | Paper Size | Cassette Capacity |
|---|---|---|
| Cut Sheet | Letter, Executive, A4 | 250 Sheets of 20 lb(75 g/m$^2$) |
| | Legal | 100 Sheets of 20 lb(75 g/m$^2$) |
| Coated Paper | Letter | 100 Sheets |
| Transparencies | Letter | 50 |
| Glossy Paper | Letter | 20 |
| Envelopes | DL, COM-10, C5, B5, Monarch | 10 |
| Organizer | K, L | 10 |

Paper Capacity of Paper Cassette:

Cut Sheet Paper Weight 17 to 32 lb (64 to 120 g/m$^2$ )

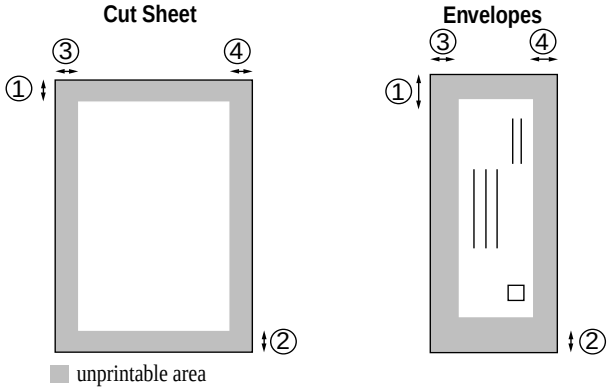
Paper Cassette: Up to 1.06 inches (27mm) / Approximately 250 sheets of 20 lb (75 g/m$^2$ )

Output Stacker: Approximately 75 Sheets of 20 lb (75 g/m$^2$)

Retrieve transparencies and glossies as they exit the machine so they don't stack and smear.

# Print Area

The Print Area depends on the settings in the application you are using. The figures below show the unprintable areas on cut sheet and envelopes.




(inch)

| Paper Type | Paper Size | | ① | ② | ③ | ④ |
|---|---|---|---|---|---|---|
| Cut Sheet | Letter, Legal | Fax | 0.12 | 0.43 | 0.16 | 0.16 |
| | | Mono Copy | | | | |
| | | Color Copy | | | | 0.24 |
| | | Printer | | | | 0.34 |
| | A4 | Fax | 0.12 | 0.43 | 0.08 | 0.08 |
| | | Mono Copy | | | | |
| | | Color Copy | | | 0.13 | 0.13 |
| | | Printer | | | 0.13 | 0.13 |
| | Executive | Printer | 0.12 | 0.43 | 0.13 | 0.13 |
| Organizer | K, L | Printer | 0.12 | 0.43 | 0.13 | 0.13 |
| Envelopes | DL, C5, CM10, Monarch | Printer | 0.39 | 0.79 | 0.13 | 0.13 |

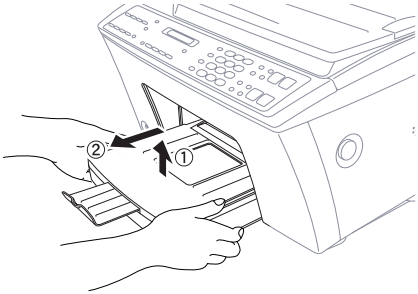
*Printer depends on the Printer driver.

## Loading Paper in the Multi-Purpose Paper Cassette

Before you install paper, please read *Paper*, pages 2-3~4.

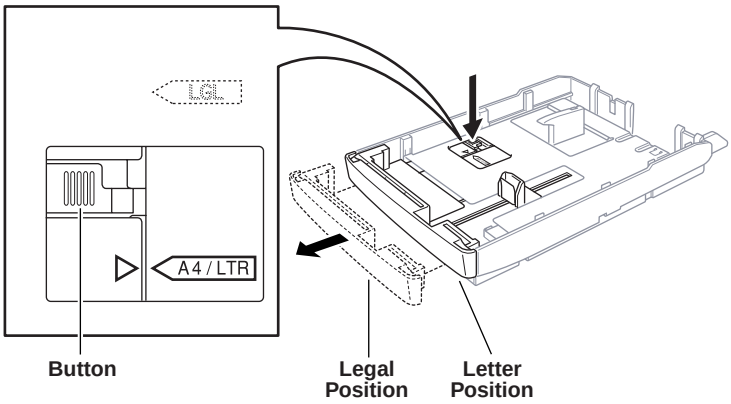
The paper cassette can hold up to 250 sheets of paper (20 lb).

1) Remove the paper cassette (lift up and pull out).

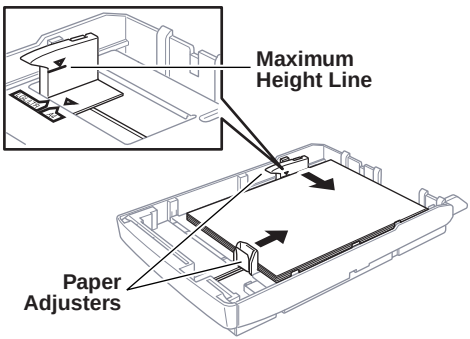



2) Remove the cassette cover.

3) Adjust the cassette to the letter (A4/LTR) or legal position for the size of paper you are using. To adjust the cassette to legal size, press the button on the left and pull out the front part of the cassette.



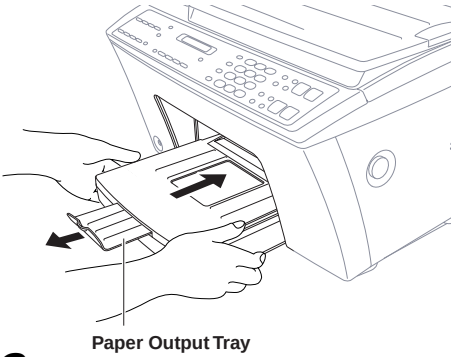

4) Stack up to 250 sheets of paper *face down* in the cassette and slide the width and length paper adjusters to fit around it.
Do not place paper above the maximum paper height line, or paper may jam.




5) Replace the cassette cover.

6) Slide the paper cassette into the MFC until it locks into place.

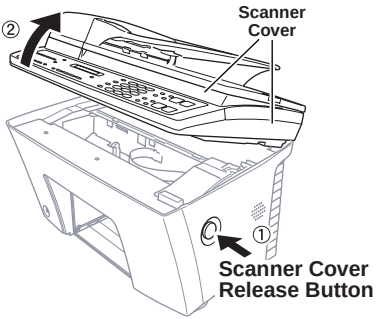
7) Pull out the paper output tray.



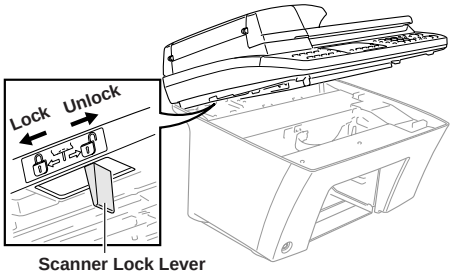

# Connecting the MFC

**1 Release the scanner lock lever.**

A) Press the blue Scanner Cover Release Button on the right side of the MFC and lift the scanner cover until it locks in the open position.

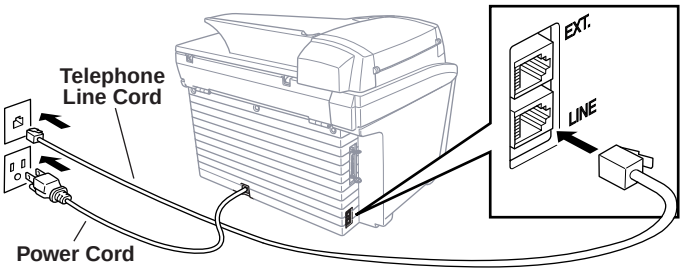



B) The blue Scanner Lock Lever is on the back left under side of the scanner cover. Push the lever up to unlock the scanner.



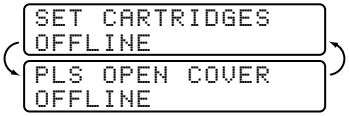

## Caution

If CHECK SCAN LOCK appears on the LCD, immediately release the scanner lock. If you see MACHINE ERROR AF (or AE), stop operation and call Customer Service for assistance. (See *Error Messages* page 21-2)



**2 Connect the power cord.**

There is no ON/OFF switch. When you plug in the power cord, the power goes on and the screen alternately displays.




**3 Connect the telephone line cord.**

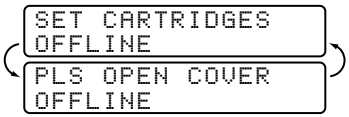
Connect one end of the telephone line cord to the jack on the MFC and the other end to a modular wall jack.

### WARNING

- The MFC must be grounded using a 3-prong plug.
- Since the MFC is grounded through the power outlet, protect yourself from potentially hazardous electrical conditions on the telephone line by keeping the power to your MFC on when you connect it to a telephone line. When you want to move your MFC, protect yourself by disconnecting the telephone line first, and then the power cord.
- **Operating the MFC before you install the ink cartridges will permanently damage the print head.**

## *Installing the Ink Cartridges*

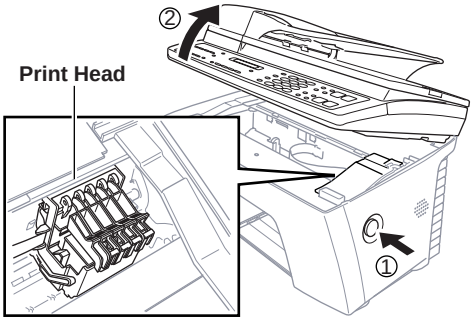
**1** Check that you turned on the power (by plugging in the power cord). The screen alternately displays



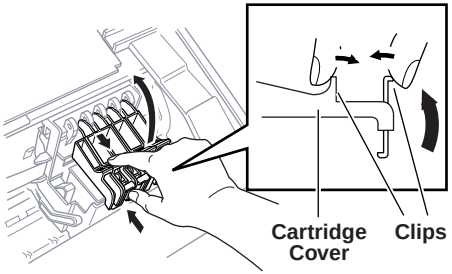

### Caution

Close the document cover *before* you open the Scanner Cover.

**2** Press the blue Scanner Cover Release Button on the right side of the MFC and lift the scanner cover. After a few seconds, the print head will move left to its replacement position.



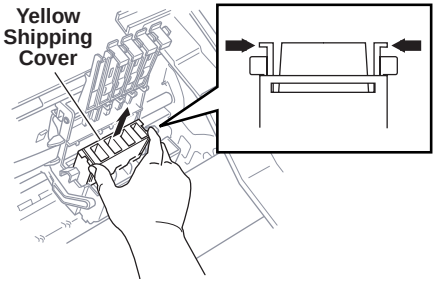
**3** Open the ink cartridge covers by pressing the clips together as shown in the illustration.




**4** Remove the yellow shipping cover (lift it up and out).

## Caution

- **The bottom of the yellow shipping cover is wet with ink that will cause stains, so wipe it clean before you place it down. Keep the yellow shipping cover in a safe place. You will need it in the future when you replace the print head.**




We recommend that you install the ink cartridges from left to right in this order: Black, Yellow, Cyan, Magenta.

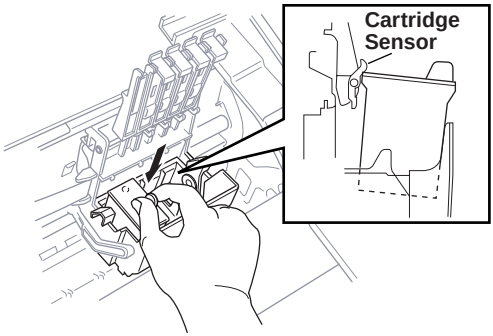
**5** Open the Black ink cartridge bag and remove the ink cartridge.

**6** Carefully remove the sealing tape from the side of the ink cartridge. Be sure to peel the tape in the direction away from you.

## Important

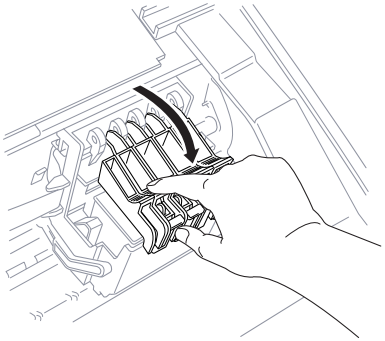
To prevent spilling ink and staining your hands and clothing, peel the sealing tape gently and slowly. Do not touch the ink opening on the cartridge or the removed tape.

**7** Each color has its own correct position. Gently insert the Black ink cartridge, matching the color of the cartridge covers. Please be careful not to press down on the cartridge sensor (see illustration) when inserting a cartridge.




**8** Repeat Steps 5–7 to install each color ink cartridge.

**9** Close the cartridge covers **until they click into place.**



**10** After installing all ink cartridges, close the scanner cover. Your MFC now prepares for a “head cleaning” and goes online so it can set the ink dot counter. The MFC will ask you if you changed each color ink cartridge.

```
DID YOU CHANGE
BLCK?1.YES 2.NO
```

**11** Press 1 on the dial pad for each color, as prompted (for initial setup only) within 1 minute. The MFC will enter a cleaning cycle for approximately 6 minutes. The screen alternately displays **CLEANING BLACK** and **PLEASE WAIT**. The ink dot counter will be set automatically for each color, so the MFC can warn you with an error message when ink is running low.

Make sure paper is loaded in the cassette, then press Start within 1 minute.

When the MFC completes the cleaning cycle, the MFC starts printing the test sheet.

**12** Only during initial ink cartridge installation, the screen shows.

```
PRINT OK?
1.YES 2.NO
```

Check the print quality of the test sheet. If it is not good, clean the print head again, by pressing 2. The screen will ask you if the print quality is OK for each color. Press 2 for any color with a problem. You can choose several colors. After cleaning is finished, press Start.

The MFC starts printing Test Sheet No. 2.

**13** Adjust the Vertical Alignment by following the instructions printed on the Test Print page.

### WARNING

If ink gets in your eyes, irrigate them with water immediately and consult a doctor if you are concerned.

## Caution

- DO NOT remove ink cartridges if you do not need to replace them. If you do so, it may reduce the ink quantity and the MFC will not know the quantity of ink left in the cartridge.
- DO NOT shake the ink cartridges. If you do so, the ink may spill when you take off the sealing tape. If ink stains your body or clothing, wash with soap or detergent immediately.
- If you install an ink cartridge in the wrong color position, you must clean the print head several times after correcting the cartridge installation and before you start printing because the colors were mixed.
- Once you open an ink cartridge, install it in the MFC and use it up within six months of installation. Use unopened ink cartridges by the expiration date written on the cartridge package.
- DO NOT refill the ink cartridges. Attempting to use refilled cartridges may cause damage to the print head and will void your warranty.

  If the INK EMPTY error message is on the screen display after you have installed the ink cartridges, check and make sure that the ink cartridges are installed correctly.

## Connecting an External Telephone

Although your MFC does not have a handset, you can connect a separate telephone (or telephone answering device) directly to your MFC.

Connect the modular plug on the telephone's line cord to the jack labeled EXT. on the left side of the MFC.

Whenever this phone (or TAD) is in use, the screen displays TELEPHONE. To disconnect the call on the external phone and switch to the MFC, press Hook.

## Connecting an External TAD (Telephone Answering Device)

### Sequence

You might choose to connect an answering system. When you have an **external** TAD on the same telephone line as the MFC, the TAD answers all calls. The machine "listens" for fax calling (CNG) tones. If it hears them, the MFC takes over the call and receives the fax. If it doesn't hear CNG tones, the MFC lets the TAD continue playing your outgoing message so your caller can leave you a voice message.

The TAD must answer within four rings (the recommended setting is two rings). The MFC cannot hear CNG tones until the TAD has answered the call, and with four rings there are only 8–10 seconds of CNG tones left for the fax "handshake." Make sure you carefully follow the instructions in this manual for recording your outgoing message. We do not recommend using the toll saver feature on your external answering machine if it exceeds 4 rings.

### Connections

The external TAD must be plugged into the left side of the MFC in the jack labeled EXT. Your MFC cannot work properly if you plug the TAD into a wall jack.

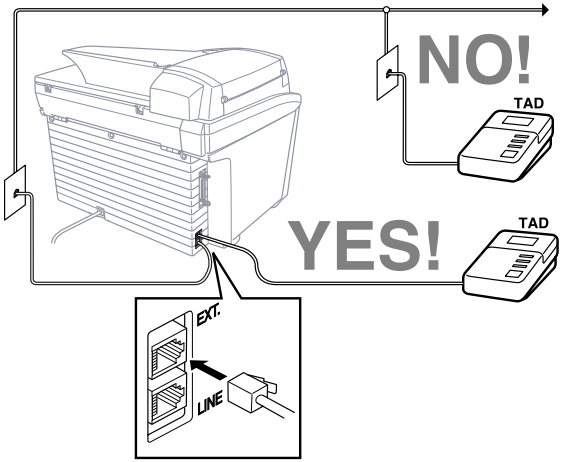
*If You Subscribe to your Telephone Company's Distinctive Ring Service:*

You may connect an external TAD to a separate wall jack *only* if you subscribe to your telephone company's Distinctive Ring service, have registered the distinctive ring pattern on your machine, use that number as a fax number and set your MFC's Answer mode to MANUAL.

*If You Do NOT Subscribe to Distinctive Ring Service:*

You must plug your TAD into the EXT. jack of your MFC. If your TAD is plugged into a wall jack, both your MFC and the TAD will try to control the phone line. (See illustration on page 2-7.)

**Do not connect a TAD elsewhere on the same phone line.**




1. Plug the telephone line cord from the wall jack into the left side of the MFC, in the jack labeled LINE.
2. Plug the telephone line cord from your TAD into the left side of the MFC, in the jack labeled EXT. (Make sure this cord is connected to the TAD at the TAD's telephone line jack, and not its telephone set jack.)
3. Set your external TAD to four rings or less. (The MFC's Ring Delay setting does not apply).
4. Record the outgoing message. (See below.)
5. Set the Answer mode to EXT. TEL/TAD (Function 1, 2, 1, page 5-1).

### Recording Outgoing Message (OGM)

Timing is important in recording this message. The message sets up the ways to handle both manual and automatic fax reception.

1. Record 5 seconds of silence at the beginning of your message. (This allows your MFC time to listen for the fax CNG tones of automatic transmissions before they stop.)
2. Limit your speaking to 20 seconds. (See *Easy Receive*, page 5-2.)
3. End your 20-second message by giving your Fax Receive Code for people sending manual faxes. For example: "**After the beep, leave a message or send a fax by pressing ✳ 5 1 and Start**."

We recommend beginning your OGM with an initial 5-second silence because the MFC cannot hear fax tones over a resonant or loud voice. You may try omitting this pause, but if your MFC has trouble receiving, then you must rerecord the OGM to include it.

## Special Line Considerations

### Roll Over Phone Lines

A roll over phone system is a group of two or more separate telephone lines that pass incoming calls to each other if they are busy. The calls are usually passed down or “rolled over” to the next available phone line in a preset order.

Your MFC can work in a roll over system as long as it is the last number in the sequence, so the call cannot roll away. Do not put the MFC on any of the other numbers; when the other lines are busy and a second fax call is received, the fax call would be transferred to a line that does not have a fax machine. Your MFC will work best on a dedicated line.

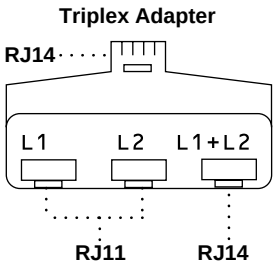
### Two-Line Phone System

A two-line phone system is nothing more than two separate phone numbers on the same wall outlet. The two phone numbers can be on separate jacks (RJ11) or combined into one jack (RJ14). Your MFC must be plugged into an RJ11 jack. RJ11 and RJ14 jacks may be equal in size and appearance and both may contain four wires (black, red, green, yellow). To test the type of jack, plug in a two-line phone and see if it can access both lines. If it can, you must separate the line for your MFC.

### Converting Telephone Wall Outlets

There are three ways to convert to an RJ11 receptacle. The first two ways may require assistance from the telephone company. You can change the wall outlets from one RJ14 jack to two RJ11 jacks. Or, you can have an RJ11 wall outlet installed and slave or jump one of the phone numbers to it.

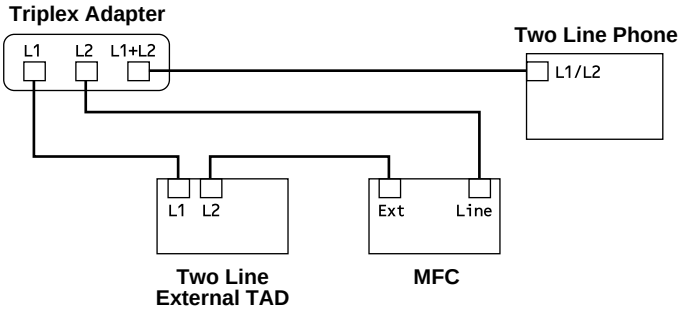
The third way is the easiest: Buy a triplex adapter. You can plug a triplex adapter into an RJ14 outlet. It separates the wires into two separate RJ11 jacks (Line 1, Line 2) and a third RJ14 jack (Lines 1 and 2). If your MFC is on Line 1, plug the MFC into L1 of the triplex adapter. If your MFC is on Line 2, plug it into L2 of the triplex adapter.



### Installing MFC, External Two-Line TAD, and Two-Line Telephone

When you are installing an **external** two-line telephone answering device (TAD) and a two-line telephone, your MFC must be isolated on one line at both the wall jack and at the TAD. *The most common connection is to put the MFC on Line 2, which is our assumption in the following steps.* The back of the two-line TAD must have two telephone jacks: one labeled L1 or L1/L2, and the other labeled L2. You will need at least three telephone line cords, the one that came with your MFC and two for your external two-line TAD. You will need a fourth line cord if you add a two-line telephone.

1. Place the two-line TAD and the two-line telephone next to your MFC.
2. Plug one end of the telephone line cord for your MFC into the L2 jack of the triplex adapter. Plug the other end into the **LINE** jack on the left side of the MFC.
3. Plug one end of the first telephone line cord for your TAD into the L1 jack of the triplex adapter. Plug the other end into the L1 or L1/L2 jack of the two-line TAD.
4. Plug one end of the second telephone line cord for your TAD into the L2 jack of the two-line TAD. Plug the other end into the **EXT.** jack on the left side of the MFC.




You can keep two-line telephones on other wall outlets as always. There are two ways to add a two-line telephone to the MFC's wall outlet. You can plug the telephone line cord from the two-line telephone into the L1+L2 jack of the triplex adapter. Or, you can plug the two-line telephone into the TEL jack of the two-line TAD.

## Multi-Line Connections (PBX)

Most offices use a central telephone system. While it is often relatively simple to connect the MFC to a key system or a PBX (Private Branch Exchange), we suggest that you contact the company that installed your telephone system and ask them to connect the MFC for you. It is advisable to have a separate line for the MFC. You can then leave the MFC in FAX mode to receive faxes any time of day or night.

If the MFC is to be connected to a multi-line system, ask your installer to connect the unit to the last line on the system. This prevents the unit from being activated each time a telephone call is received.

⊘ As with all fax units, this MFC must be connected to a two wire system. If your line has more than two wires, proper connection of the MFC cannot be made.

### If you are installing the MFC to work with a PBX:

1. It is not guaranteed that the unit will operate correctly under all circumstances with a PBX. Any cases of difficulty should be reported first to the company that handles your PBX.
2. If all incoming calls will be answered by a switchboard operator, it is recommended that the Answer mode be set to MANUAL. All incoming calls should initially be regarded as telephone calls.
3. The MFC may be used with either pulse or tone dialing telephone service.

## Custom Features on a Single Line

To learn how custom features may affect your faxing operations, please see the *Troubleshooting and Routine Maintenance* chapter, page 21-1.

# 3 On-Screen Programming

## User-Friendly Programming

We have designed your Multi-Function Center with on-screen programming and a Help key. User-friendly programming helps you take full advantage of all the functions your MFC has to offer.

Since your programming is done on the LCD, we created step-by-step on-screen prompts to help you program your MFC. All you need to do is follow the prompts as they guide you through the function menu selections and programming options and settings.

### Function Mode

You can access the Function Mode by pressing Function. The screen displays

```
1.FAX     2.PRINTER
3.COPY    4.VIDEO
```

Then press 1 for Fax Functions—**OR**—press 2 for Printer Functions —**OR**—press 3 for Copy Functions—**OR**—press 4 for Video Functions.

When you enter Function Mode, your MFC scrolls a list of main menu options from which you can choose. These menu options appear one after the other on the display. Select a menu by pressing Set when the option appears on the LCD. The LCD will scroll the options within that menu.

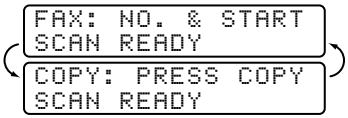
You can scroll more quickly through options by pressing →. Use ← to scroll backward if you passed your choice or to see options in the opposite order. When the screen displays your selection, press Set.

When you finish a function, the screen displays ACCEPTED.

If you want to exit the Function Mode, press Stop.

## Alternating Displays

When you see alternating displays, the LCD sometimes alternates between the currently selected option, and a help message giving brief instructions about how to proceed. The display you'll probably see most often is shown below, showing you, when you place a document in the feeder, that you can dial a number and send a fax, or you can make a copy.




## Function Selection Table

You can probably perform most of these programming settings without the Owner's Manuals. To help you understand the function selections, options and settings that are found in the MFC programs, use the Function Selection Table below.

# 1. Fax Functions

| 1. INITIAL SETUP | | | |
|---|---|---|---|
| **Function** | **Description** | **Factory Set** | **Page** |
| **1. TONE/PULSE** | Selects dialing mode. | TONE | 4-1 |
| **2. DATE/TIME** | Enter date and time for LCD display and heading on transmissions. | 2000 1/1 00:00 | 4-1 |
| **3. STATION ID** | Program name, fax number and telephone number to appear on each transmitted page. | — | 4-2 |
| **4. BEEPER** | Adjust volume level of beeper. | LOW | 4-3 |
| **5. DELAYED TIMER** | Sets the time of day for delayed faxes. You can accept it or enter another time when you scan each fax into memory in "Delayed Fax" | 00:00 | 4-4 |
| **6. SPEAKER VOLUME** | Adjust speaker volume. | LOW | 4-4 |
| **7. RING VOLUME** | Adjust volume of ringer. | LOW | 4-4 |

## 1. Fax Functions (continued)

| 2. SETUP RECEIVE | | | |
|---|---|---|---|
| **Function** | **Description** | **Factory Set** | **Page** |
| **1. ANSWER MODE** | Choose the mode that best suits your needs: FAX, EXT. TEL/TAD, MANUAL. | FAX | 5-1 |
| **2. RING DELAY** | Number of rings before MFC answers. | RING DELAY: 04 | 5-2 |
| **3. EASY RECEIVE** | Receive fax messages without pressing the Start key. | ON | 5-2 |
| **4. REMOTE CODE** | Enter code to activate the MFC from a remote location. | ON (✳51) | 5-4 |
| **5. REDUCTION** | Reduces size of image. | AUTO | 5-2 |
| **6. PAPER** | Selects size of paper for fax receiving. | LETTER | 5-3 |
| **7. POLLING RX** | Sets up your MFC to poll another fax machine. | OFF | 5-5 |
| **8. MF LINK** | Turn on if PC is connected to MFC for PC receiving of fax messages. | ON | 12-8 |

| 3. SETUP SEND | | | |
|---|---|---|---|
| **Function** | **Description** | **Factory Set** | **Page** |
| **1. COVERPG SETUP** | Automatically sends a cover page you program. | OFF | 6-7- 9 |
| **2. COVERPAGE MSG** | Program customized message for fax cover page. | — | 6-8 |
| **3. CONTRAST** | Change lightness or darkness of a fax you are sending. | AUTO | 6-3 |
| **4. RESOLUTION** | Allows you to change resolutions page by page. | STANDARD | 6-11 |
| **5. OVERSEAS MODE** | Adjusts for sometimes difficult overseas transmissions. | OFF | 6-10 |
| **6. DELAYED FAX** | Send documents later. | — | 6-10 |
| **7. POLLED TX** | Sets up your MFC with a document to be retrieved by another fax machine. | OFF | 6-11 |
| **8. REAL TIME TX** | When memory is full, you can send faxes in real time. | OFF | 6-6 |

## 1. Fax Functions (continued)

### 4. REMAINING JOBS

| Function | Description | Factory Set | Page |
|---|---|---|---|
| | Check which jobs are in memory or cancel a delayed fax or polling job. | | 5-6, 6-6, 7 |

### 5. SET AUTO DIAL

| Function | Description | Factory Set | Page |
|---|---|---|---|
| **1. ONE-TOUCH DIAL** | Dial numbers stored in memory by pressing only one key. | — | 7-1 |
| **2. SPEED-DIAL** | Dial numbers stored in memory by pressing only three keys. | — | 7-2 |
| **3. SETUP GROUPS** | Set up a Group number for broadcasting. | — | 7-3 |

### 6. PRINT REPORTS

| Function | Description | Factory Set | Page |
|---|---|---|---|
| **1. XMIT REPORT** | | OFF | 9-2 |
| **2. ACT. REPORT** | Print lists and reports | INTERVAL: OFF | 9-2 |
| **3. ALL DIAL** | of activity. | — | 9-1 |
| **4. TEL. INDEX** | (Details in Chapter 9) | — | 9-1 |
| **5. USER SETTINGS** | | — | 9-1 |
| **6. MEMORY STATUS** | | — | 9-1 |

### 7. REMOTE FAX OPT

| Function | Description | Factory Set | Page |
|---|---|---|---|
| **1. FAX FWD/PAGING** | Set MFC to forward fax –**OR**– to call your pager. | OFF | 8-1 |
| **2. FAX STORAGE** | Store incoming fax in memory for remote retrieval. | OFF | 8-2 |
| **3. REMOTE ACCESS** | Set code for retrieving faxes. | 159✳ | 8-3 |
| **4. PRINT FAX** | Print incoming faxes stored in the memory. | — | 5-4 |

## 1. Fax Functions (continued)

| 0. TEL SERVICE | | | |
|---|---|---|---|
| **Function** | **Description** | **Factory Set** | **Page** |
| **1. DISTINCTIVE** | Use with phone company Distinctive Ring service to register the ring pattern with the MFC. | OFF | 5-8 |
| **2. CALLER ID** | View or print a list of the last 30 Caller IDs stored in memory. | — | 5-9 |

## 2. Printer Functions

| Function | Description | Factory Set | Page |
|---|---|---|---|
| **1. TEST PRINT** | Use these functions when | — | 21-10 |
| **2. VERTICAL ALIGN** | you need to adjust the print | — | 21-11 |
| **3. BI-DIR PRINT** | quality. | ON | 21-12 |

## 3. Copy Functions

| Function | Description | Factory Set | Page |
|---|---|---|---|
| **1. PAPER TYPE** | Identify the type of paper in the cassette. | PLAIN PAPER | 10-8 |
| **2. QUALITY** | Select Draft, Normal or High copy quality. | HIGH | 10-8 |
| **3. COLOR ADJUST** | Adjust the amount of Red, Green, or Blue in copies. | — | 10-9 |
| **4. BRIGHTNESS** | Adjust the brightness. | — | 10-9 |
| **5. CONTRAST** | Adjust the contrast. | — | 10-9 |
| **6. ONE COLOR** | Select a single color to use, instead of Black, when you use Mono Copy key. | OFF=Black | 10-9 |

## 4. Video Functions

| Function | Description | Factory Set | Page |
|---|---|---|---|
| **1. PAPER TYPE** | Identify the type of paper in the cassette. | PLAIN PAPER | 11-6 |
| **2. QUALITY** | Select Normal or High print. | HIGH | 11-6 |
| **3. VIDEO TYPE** | Select Moving or Still video signal. | MOVING | 11-6 |
| **4. PRINT SIZE** | Select the size you want the captured frame to print. | 5.75"x4.25" | 11-7 |
| **5. COLOR ADJUST** | Adjust the amount of Red, Green, or Blue in video printing. | — | 11-7 |
| **6. BRIGHTNESS** | Adjust the brightness. | — | 11-8 |

# 4 Initial Setup

## Getting Started

### Setting Dialing Mode (Tone/Pulse)

Your MFC comes set to accommodate tone (multi-frequency) dialing service. If you have pulse (rotary) dialing service, you need to change the dialing mode.

1. Press Function, 1, 1, 1.
2. Use ← or → to select **TONE** or **PULSE** dialing mode and press Set.

```
DIALING:TONE?
DIALING:PULSE?
```

3. Press Stop to exit.

### Setting Date and Time

Your MFC displays the date and time, and prints it on every fax you send.

In the event of a power failure, you may have to reset the date and time. All other settings remain unaffected.

1. Press Function, 1, 1, 2.
2. Enter the last two digits of the year and press Set.
   *For example*, enter 00 for the year 2000.

```
ENTER YEAR:XX
```

3. Enter two digits for the month and press Set.
   *For example*, enter 09 for September, or 10 for October.

```
ENTER MONTH:XX
```

4. Enter two digits for the day and press Set.
   *For example*, 06

```
ENTER DAY:XX
```

5. Enter the time in 24-hour format and press Set.
   *For example*, enter 15:25 for 3:25 PM.

```
ENTER TIME:XX:XX
```

6. Press Stop.
   The screen now displays the date and time you set, and displays it whenever the MFC is standing by.

## Setting Station ID

You can store your name, fax number, and telephone number to be printed on all fax pages you send. (See *Composing Electronic Cover Page*, page 6-7.)

1. Press Function, 1, 1, 3.
2. Enter your fax number (up to 20 digits) and press Set.
   (You must enter a fax number to proceed.)

   FAX:
3. Enter your telephone number (up to 20 digits)and press Set. If your telephone number and fax number are the same, enter the same number again.
   (This number appears on Cover pages.)

   TEL:
4. Press Set.
5. Use the dial pad to enter your name or your company name (up to 20 characters) and press Set.
   (See *Entering Text*, below.)

   NAME:
6. Press Stop.

The screen returns to the date and time.

If your Station ID has already been programmed, the screen prompts “1” to make a change, or “2” to exit without changing.

### Entering Text

When you are setting certain functions, such as the Station ID, you may need to enter text into the MFC. Most number keys have three or four letters printed above them. The keys for 0, #, and ✳ don’t have printed letters because they are used for special characters.

By pressing the appropriate number key the correct number of times, you can access the character you want.

| Key | once | twice | three times | four times |
|---|---|---|---|---|
| 2 | A | B | C | |
| 3 | D | E | F | |
| 4 | G | H | I | |
| 5 | J | K | L | |
| 6 | M | N | O | |
| 7 | P | Q | R | S |
| 8 | T | U | V | |
| 9 | W | X | Y | Z |

### *Inserting spaces*

If you want to enter a blank space, press → twice.

### *Making corrections*

If you entered a letter incorrectly and want to change it, press ← to move the cursor after the last correct letter. Then press Clear; all letters above and to the right of the cursor are deleted. Re-enter the correct text and/or digits. You can also back up and type over incorrect letters.

### *Repeating letters*

If you need to enter a character assigned to the same key as the previous character, press → to move the cursor to the right.

### *Special characters and symbols*

Press ✳ for (space) ! " # $ % & ' ( ) ✳ + , - . /

Press # for : ; < = > ? @ [ ] ^ _

Press Ø for É À È Ê Î Ç Ë Ö 0

**NOTICE**

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or electronic device to send any message via a telephone MFC unless such messages clearly contain, in a margin at the top or bottom of each transmitted page, or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity or other individual sending the message and the telephone number of the sending machines or such business, other entity, or individual.

In order to program this information into your MFC, you should complete the steps described on pages 4-1 and 4-2.

## Setting Beeper Volume

You can set the beeper to LOW, HIGH or OFF. The default setting is **LOW**. When the beeper is set to LOW or HIGH, the MFC beeps every time you press a key or make an error, and at the end of fax sending or receiving.

1. Press Function, 1, 1, 4.
2. Press ← or → to select your setting and press Set.
3. Press Stop to exit.

## Speaker Volume

You can set the volume of the MFC speaker.

1. Press Function, 1, 1, 6.
2. Press ← or → to select your volume setting (OFF, LOW, MEDIUM, or HIGH) and press Set.
3. Press Stop to exit.

In the OFF setting the speaker defaults to LOW when you press Hook.

## Ring Volume

You can set how loudly, or if, the MFC rings.

1. Press Function, 1, 1, 7.
2. Press ← or → to select OFF, LOW, MEDIUM, or HIGH and press Set.
3. Press Stop to exit.

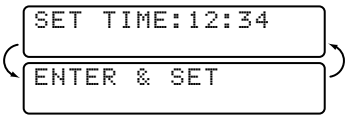
## Memory Storage

In the event of a power failure, all settings in the functions are stored permanently: INITIAL SETUP, SETUP RECEIVE, SET AUTO DIAL, REMOTE FAX OPT plus the COVERPG SETUP and COVERPAGE MSG (from SETUP SEND). You may have to reset the date and time.

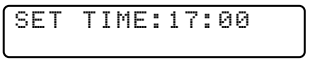
## Delayed Timer

You can set up the time of day that delayed faxes will be sent. This time will be displayed for acceptance or override when you scan faxes into memory in *Delayed Fax*, page 6-10.

1. Press Function, 1, 1, 5.
2. Enter the time (in 24-hour format) that you want delayed faxes to be sent and press Set.




3. Press Stop to exit.



# 5 Setup Receive

## Basic Receiving Operations

| Mode | How it works | When to use it | Page |
|---|---|---|---|
| MANUAL | You control the phone line and must answer every call yourself. | Use this mode when you are using a computer modem on the same line or if you receive very few fax messages. | 5-8 |
| FAX | The MFC automatically answers every call as a fax. | For dedicated fax line. You cannot receive a voice call but you can call out from an external or extension telephone. | 1-4 |
| EXT.TEL/TAD | If an external telephone is connected to the EXT. jack you control the phone line and must answer every call yourself. | Use this mode if you receive very few faxes. | 2-12 2-13 |
| | If an external TAD (telephone answering device) is connected to the EXT. jack, the TAD automatically answers every call. Voice messages are Stored in external TAD. Fax messages are printed. | Use this mode if you have an answering machine on your phone line. | |

### Setting or Changing the Answer Mode

**1** Press Function, 1, 2, 1.

```
1.ANSWER MODE
```

**2** Press ← or → to select MANUAL, EXTERNAL TEL/TAD or FAX mode and press Set.

```
FAX?
```

```
MANUAL?
```

```
EXT.TEL/TAD?
```

**3** Press Stop to exit.

## Setting Ring Delay

The Ring Delay setting determines the number of times the MFC rings before it answers. If you have extension phones on the same line as the MFC, keep the Ring Delay default setting of **4**. (See *Easy Receive*, below and *Operation from Extension Telephones*, page 5-4.)

1. Press Function, 1, 2, 2.
2. Press ← or → to select how many times the line rings before the MFC answers (00–04) and press Set. If you select 00, the line doesn't ring at all.
3. Press Stop to exit.

## Easy Receive

When you use this feature, you don't have to press Start when you answer a fax call. Selecting **ON** allows the MFC to receive fax calls automatically, even if you lift the handset of an extension or external phone. When you see RECEIVING on the fax screen or when you hear "chirps" through the handset of an extension phone connected to another wall jack, just replace the handset, and your MFC does the rest. Selecting **OFF** means you'll have to activate the MFC yourself, by pressing Hook, then Start, then 2 to receive. (See Manual Transmission, page 6-5.)—**OR**—by pressing ✱ 5 1 if you are not at your MFC. (See *Operation from Extension Telephones*, page 5-4.)

If you've set the feature to **ON**, but your MFC doesn't automatically connect a fax call when you lift an external or extension phone handset, press the Fax Receive code ✱ 5 1.

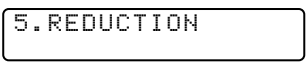
If you send faxes from a computer on the same phone line and the MFC intercepts them, set Easy Receive to OFF.

1. Press Function, 1, 2, 3.
2. Use ← or → to select **ON** or **OFF** and press Set.
3. Press Stop to exit.

## Printing a Reduced Incoming Document

You can always reduce the size of an incoming fax to a fixed percentage, regardless of the size of the paper (up to legal) in your MFC. If you choose AUTO, your MFC chooses the level of reduction for you.

1. Press Function, 1, 2, 5.
2. Use ← or → to select the reduction ratio you want (**AUTO**, **100%**, **88%**, **83%** or **70%**) and press Set. Choose 100% if you don't want a reduction.



3 Press Stop to exit.

### Recommended Reductions

If your paper is letter size (8.5" x 11"), and the incoming fax is

letter size, select 88%

A4, select 83%

legal size, select 70%

If your paper is legal size (8.5" x 14"), and the incoming fax is

letter size, select 100%

A4, select 100%

legal size, select 88%

## Setting Paper Size

You can use three sizes of paper for printing your faxes — letter, legal, and A4. When you change the paper in the MFC, you must change the setting for paper size, so your MFC will know how to fit the incoming faxes on the paper. You can also select a reduction ratio.

1 Press Function, 1, 2, 6.

2 Use ← or → to select LETTER, LEGAL or A4 and press Set.

```
6.PAPER
```

3 Press 1 if you need to change the reduction setting—**OR**—Press 2 to go to Step 5.

```
CHANGE REDUCTION
1.YES 2.NO
```

4 Use ← or → to select **AUTO**, **100%**, **88%**, **83%** or **70%** and press Set.

5 Press Stop to exit.

## Operation from Extension Telephones

If you answer a fax call on an extension phone (or on an external phone in the EXT. jack), you can make your MFC take over by using the Fax Receive Code. When you press the Fax Receive Code ✳ 5 1, the MFC starts to receive a fax. (See *Easy Receive*, page 5-2.)

If you answer a call at an extension or external phone, and no one is on the line, assume you're receiving a fax. At an extension phone, press ✳ 5 1, wait for fax receiving tones (chirps), then hang up. At an external phone, press ✳ 5 1 and wait for the phone to be disconnected (the screen displays RECEIVING) before you hang up. (Your caller will have to press Start to send the fax.)

### Changing the Fax Receive Code

The preset Fax Receive Code (✳ 5 1) may not work with some telephone systems.

If you are always disconnected when accessing your external TAD remotely, try changing the Fax Receive Code from ✳ 5 1 to # # #.

1. Press Function, 1, 2, 4.
2. Press ← or → to select ON (or OFF) and press Set.

```
REMOTE ACT.:ON?
```

3. If you want to, enter a new Fax Receive Code and press Set.

```
FAX RECEIVE:*51
```

4. Press Stop to exit.

## Printing a Fax in Memory

If you have Fax Storage ON for remote retrieval, you can still print a fax from memory when you are at your MFC. (See *Setting Fax Storage*, page 8-2.)

1. Press Function, 1, 7, 4.
2. Press Start.
3. After printing is finished, press Stop to exit.

## Polling

Polling is the process of retrieving faxes from another fax machine. You can use your MFC to "poll" other machines, or you can have someone poll your MFC.

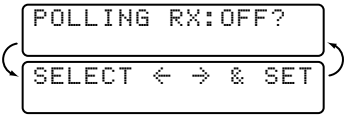
All parties involved in polling must set up their fax machines to accommodate polling. When someone polls your MFC to receive a fax, they pay for the call; if you poll someone's fax machine to receive a fax, you pay for the call.

Some fax machines do not respond to the polling function.

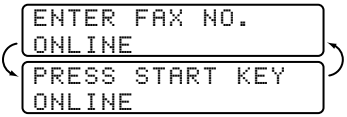
### Setting Up Polling Receive

Polling Receive is when you call another fax machine to receive a fax from it.

1. Press Function, 1, 2, 7.
2. Press ← or → to choose **ON** and press Set.




3. Enter the fax number you're polling.

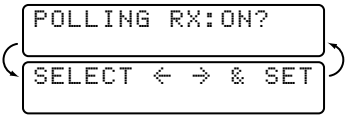



4. Press Start.
   The screen displays DIALING.

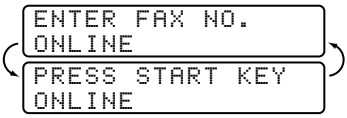
### Setting Up Sequential Polling Receive

Your MFC can request documents from several fax units in a single operation. Afterward, a Sequential Polling Report will be printed.

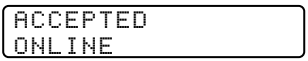
1. Press Function, 1, 2, 7.
2. Press ← or → to select Polling **ON** and press Set.



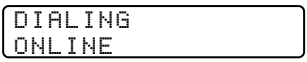

3. Specify the destination fax machines you wish to poll, using One Touch, Speed Dial, Groups or the dial pad. You must press Broadcast between each location.




4. Press Start.



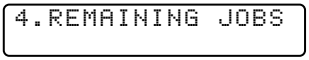

Your MFC will poll each number or group member in turn for a document.




## Canceling a Scheduled Job

You can cancel tasks you've scheduled, such as Delayed Fax or Polling Transmit. (See *Checking Job Status*, page 6-5.)

1. Press Function, 1, 4.
Jobs waiting to be sent from memory appear on the display. If there are no jobs, the screen displays NO JOB WAITING.




2. If you have more than two jobs waiting, press ← or → to select the job you want to cancel and press Set

**—OR—**

If you have only one job waiting, go to Step 3.

3. Press 1 to cancel—**OR**—Press 2 to exit without canceling.
To cancel another job, return to Step 2.
4. Press Stop to exit.

## Distinctive Ring

This feature lets you use the Distinctive Ring subscriber service offered by some telephone companies, which allows you to have several telephone numbers on one phone line. Each phone number has its own Distinctive Ring pattern, so you'll know which phone number is ringing. This is one way you can have a separate phone number for your MFC.

Your MFC has a Distinctive Ring function, allowing you to dedicate one phone number just for receiving faxes. You'll need to follow the directions below to "register" the new Distinctive Ring pattern, that was assigned by the Telephone Company, so your MFC can recognize its incoming calls.

You can change or cancel the Distinctive Ring pattern at any time. You can switch it off temporarily, then turn it back on. When you get a new fax number, be sure to you reset this function.

You can register only one Distinctive Ring pattern with the MFC. Some ring patterns cannot be registered.

- The MFC will answer only calls to its registered number.
- You will not hear the first two rings of all incoming calls on the MFC.
- To have your external TAD answer only the main number, the MFC must be in MANUAL Mode.
- In FAX mode, the MFC will answer all numbers on the phone line.

### Registering your Distinctive Ring Pattern

If you are not sure which ring pattern you have, call your telephone company. Then assign that pattern in the steps below.

1. Set the machine to **MANUAL** mode.
2. Press Function, 1, 0, 1.
   The screen displays the current setting of this feature.
3. Press ← or → to select the SET Mode.
4. Press Set when the screen displays DISTINCTIVE:SET?
5. Press ← or → to select the prestored ring pattern you want to assign and press Set. (You will hear each pattern as you scroll through the four patterns. Be sure to choose the pattern assigned by the Telephone Company.)

| Ring Pattern | Rings | |
|---|---|---|
| 1 | long - long | |
| 2 | short - long - short | |
| 3 | short - short - long | |
| 4 | very long (normal pattern) | |

6. Press Stop to exit.

Once you've registered the Distinctive Ring pattern in your machine, you can turn this feature on or off. To change the setting, follow Steps 1 to 5 above, selecting ON (or OFF).

## Caller ID

The Caller ID feature lets you use the Caller ID subscriber service offered by many local phone companies. Subscriber services send the name or telephone number of your caller as the line rings.

When a call comes in, after a few rings the MFC displays the telephone number of your caller (or name, if available). Once the call is answered, the Caller ID information disappears from the screen, but the call information remains stored in the Caller ID memory.

- You will see the first 16 characters of the number or name.
- OUT OF AREA display means call originates outside your Caller ID service area.
- PRIVATE CALL display means the caller has intentionally blocked transmission of information.

If both the name and number are received, the screen displays only the name. You can print a list of received Caller ID information.

Caller ID service varies with different carriers. Call your local phone company to determine the kind of service available in your area.

### Viewing Caller ID List

Caller ID memory stores information for up to thirty calls; when the thirty-first call comes in, the first call is erased. You can scroll through Caller ID information to review those calls made to your MFC.

1. Press Function, 1, 0, 2.
2. Press ← or → to select DISPLAY #? and press Set.
   If the name was not received, it will not be displayed.
3. Press ← or → to scroll through the Caller ID memory to select the Caller ID you want to view and press Set.
   The screen shows the caller's name and number, date and time of the call.
4. Press ← or → to return to the Caller ID listing—**OR**—Press Stop to exit.

### Printing Caller ID List

1. Press Function, 1, 0, 2.
2. Press ← or → to select PRINT REPORT? and press Set.
3. Press Start.

### Clearing a Caller ID Stored in Memory

For effective use of the memory, we recommend that you clear the Caller IDs from memory, by pressing Clear when the display shows the number or name.

# 6 Setup Send

## Before You Begin

You can send a fax from the ADF (Automatic Document Feeder) or from the scanner glass.

### Sending Faxes Using Multiple Settings

When you send a fax you can choose any combination of the available settings: add a cover page and select a comment; set the contrast or resolution; send using overseas mode, or delayed fax timer, polling transmission or real time transmission. After each function is accepted, the display will ask if you want to enter other settings:

```
ACCEPTED

OTHER SETTINGS?
1.YES 2.NO
```

Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu**—OR—**Press 2 if you are finished choosing settings, and go to the next step.

### Faxing from the Document Feeder

#### ADF (Automatic Document Feeder)

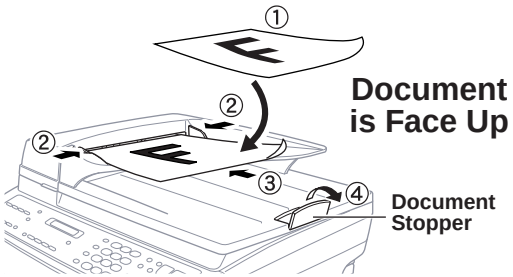
The automatic document feeder (ADF) can hold up to 50 pages, feeding each one individually through the MFC. Use standard (20 lb/75g/$m^2$) paper when using the ADF. Always fan the pages well before placing them in the feeder.

| | |
|---|---|
| Temperature: | 68°F – 86°F (20°C – 30°C) |
| Humidity: | 50% – 70% |
| Paper: | Xerox 4200 (20LB/LTR),<br>Xerox 4024 (24LB/LTR), |

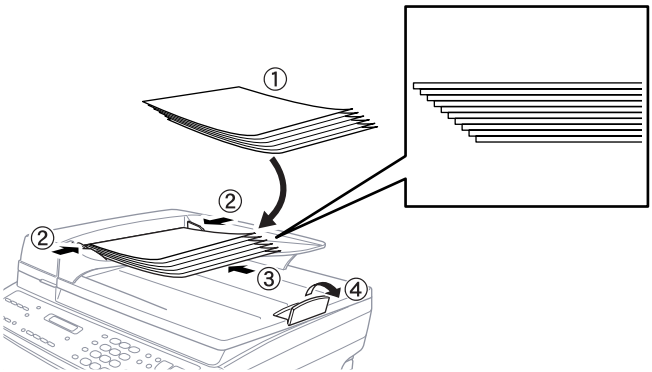
⊘ **DO NOT** use curled, wrinkled, folded, or ripped paper, or paper with staples, paper clips, paste or tape attached. **DO NOT** use cardboard, newspaper, or fabric. (To fax this kind of document, see *Scan Fax*, page 6-3.)

- Make sure documents written with ink are completely dry.

- Documents to be faxed must be from 5.8 to 8.5 inches wide, and from 5 to 14 inches long.
- Insert documents ***face up***, ***top edge first***. (①)
- Adjust the paper guides to fit the width of your document. (②)




- Pull up the document stopper. (④)

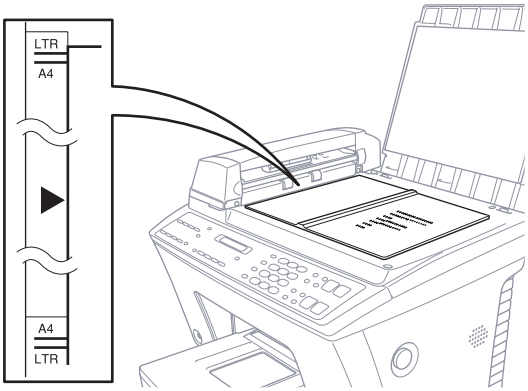



- Stagger the pages. Then place them in the ADF, until you feel the first page lightly touch the feed roller.

# Faxing from the Scanner Glass

## Scan Fax

You can fax pages from a book using the scanner glass. Documents are sent from memory; they can be letter or A4 size (8.5 inches to 11.7 inches). To use the Scanner glass, the ADF must be empty.




**Document is Face Down**

**1** Lift the document cover.

**2** Using the document guidelines on the left, center the document *face down* on the scanner glass.

**3** Close the document cover.

If the document is a book or is thick, do not slam the cover or press on it.

**4** Dial the fax number, then press Start.
The MFC starts scanning the first page.

**5** To send a single page, go to Step 7—**OR**—
To send multiple pages, go to Step 6.

```
MEMORY #01 100%
SET:NEXT PAGE
START:TO DIAL
```

**6** Place the next page on the scanner glass and press Set. The MFC starts scanning. (Repeat Step 6 for each additional page.)

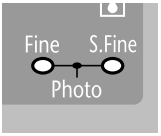
**7** Press Start to begin dialing.

Press Stop to cancel. If the document was scanned into memory, press 1 to CLEAR it—**OR**—2 to EXIT.

If memory is full, and you are faxing a single page, it will be sent in real time.

You cannot use Scan Fax when the MFC is sending, receiving or printing a fax.

## Resolution




- Press Resolution before you send the fax to select the resolution for the document you're sending. (See *Multiple Resolution Transmission*, page 6-11.)

  **Standard**—Suitable for most typed documents. (Fine and S. Fine lights are off.)

  **Fine**—Good for small print; transmits slower than standard resolution. (Only the Fine light is on.)

  **Super Fine**—Good for small print or artwork; transmits slower than fine resolution. (Only the S. Fine light is on.)

  **Photo**—Use when document has varying shades of gray; slowest transmission time. (Both Fine and S. Fine lights are on.)

## Contrast

If your document is very light or very dark, you might want to set the contrast accordingly. Use S.LIGHT to send a very light documens. Use S.DARK to send a very dark document.

1. Insert the document in the feeder or on the scanner glass.
2. Press Function, 1, 3, 3.
3. Use ← or → to select AUTO, S.LIGHT or S.DARK and press Set.
4. Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press 2 if you are finished choosing settings, and go to Step 5.
5. Enter a fax number and press Start to send a fax.

## Automatic Transmission

This is the easiest way to send a fax. **IMPORTANT:** Do **not** press Hook.

1. Insert the document in the feeder or on the scanner glass.
2. Enter the fax number using One Touch, Speed Dial, Tel-index or the dial pad. See *Speed Dialing*, page 7-4.
3. Press Start.

## Manual Transmission (ADF)

Manual transmission lets you hear the dial tone, ringing and fax receiving tones before sending the fax.

1. Insert the document in the feeder or on the scanner glass.
2. Press Hook for a dial tone.
3. Enter the fax number you want to call (you can enter the digits using the dial pad, or you can enter a One Touch or Speed Dial number or you can call from the Tel-index). (See *Auto Dial Numbers and Dialing Options*, page 7-1.)
4. When you hear the fax tone, press Start.
5. Press 1 to begin sending.

```
1.SEND 2.RECEIVE
```

## Manual and Automatic Fax Redial

*If you're sending a fax manually* and the line is busy, press Redial/Pause to retry the number.

*If you're sending a fax automatically* (using the ADF) and the line is busy, the MFC will automatically redial up to three times at 5 minute intervals.

## Dual Access

If the document feeder is empty, you can place a document in the feeder and set temporary settings, dial a number, and begin scanning the fax into memory—even when the MFC is receiving a fax, sending a fax, or printing a fax from memory. The screen displays the new job number and available memory.

You cannot use Scan Fax when the MFC is sending, receiving or printing a fax.

If you get a MEMORY FULL message while scanning the first page of a fax press Stop to cancel the scan. If you get a MEMORY FULL message while scanning in a subsequent page, you'll have the option to press Start to transmit the pages scanned so far, or to press Stop to cancel the operation.

*The number of documents you can scan into memory varies with the data they contain.*

## Real Time Transmission

When memory is full, the MFC cannot continue scanning documents into memory before sending. However, you can turn on REALTIME TX.

1. Insert the document in the feeder or on the scanner glass.
2. Press Function, 1, 3, 8.

```
8. REAL TIME TX
```

3. To change the default setting, press ← or → to select ON (or OFF) and press Set. Go to Step 5**—OR—**For the next fax transmission only, press ← or → to select NEXT FAX ONLY and press Set.

```
REAL TIME:ON?
```

4. For the next fax only, press ← or → to select ON (or OFF) and press Set.
5. Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu**—OR—**Press 2 if you are finished choosing settings and go to Step 6.
6. Enter fax number and press Start.

## Checking the Jobs Status

Check which jobs are still waiting in memory to be sent. (If no jobs are waiting, the screen displays NO JOB WAITING.) (See *Canceling Jobs in Memory*, page 6-7.)

1. If the machine is idle, press Function, 1, 4.

   **—OR—**

   If the MFC is busy, press Stop.
2. If you have multiple jobs waiting, use ← or → to scroll through the list.
3. Press Stop to exit.

## Canceling Jobs in Memory

You can cancel tasks you've scheduled, such as Polling Transmit, as well as all faxes waiting in Memory to be sent. If jobs are waiting, they appear on the display; otherwise, the screen displays NO JOB WAITING.

1. Press Function, 1, 4.

```
4.REMAINING JOBS
```

2. If you have more than two jobs waiting, use ← or → to select the job you want to cancel and press Set.

   **—OR—**

   If you have only one job waiting, press Stop.

3. Press 1 to cancel—**OR**—Press 2 to exit without canceling.

4. Press Stop to exit.

If the fax machine is busy, press Stop, then follow Steps 2 through 4 to cancel a job.

# *Basic Sending Operations*

## Composing Electronic Cover Page

The cover page is generated at the receiving party's machine. Your cover page includes the name stored in the One Touch or Speed Dial memory. If you're dialing manually, the name is left blank. (See *One Touch Dialing* and *Speed Dialing*, page 7-4.)

The cover page indicates your Station ID, and the number of pages you're sending. If you have Coverpage Setup set to ON (Function 1 3 1), the number of pages remains blank. (See *Setting Station ID*, page 4-2.)

You can select a comment to include on your cover page.

```
1.COMMENT OFF
```

```
2.PLEASE CALL
```

```
3.URGENT
```

```
4.CONFIDENTIAL
```

Instead of using one of the comments above, you can enter up to two customized messages, each 27 characters long. Use the chart on page 4-2 to help enter characters. (See *Composing Your Own Comments*, page 6-8.)

```
5.(USER DEFINED)
```

```
6.(USER DEFINED)
```

Most of the SETUP SEND functions are temporary settings that allow you to make adjustments for each document you send. However, so you can set up your cover page and cover page comments in advance, the Cover Page Setup and Cover Page Message functions change the default settings.

### Composing Your Own Comments

You can set up two custom comments.

1. Press Function, 1, 3, 2.
2. Press ← or → to choose position 5 or 6 for your customized comment and press Set.
3. Use the dial pad to enter your customized comment and press Set. (See *Entering Text*, page 4-2.)
4. Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu**—OR—**Press 2 to exit.

### Cover Page for Next Fax Only

Make sure the Station ID is set up. (See page 4-2.) This feature does not work without the Station ID.

You can set the fax to send a cover page with a particular document. This cover page will include the number of pages in your document.

1. Insert the document in the feeder or on the scanner glass.
2. Press Function, 1, 3, 1.
3. When the screen displays **NEXT FAX ONLY?**, press Set.
4. Press ← or → to select **ON** (or OFF) and press Set.
5. Press ← or → to select one of the standard or custom comments and press Set.
6. Enter two digits to indicate the number of pages you are sending and press Set.
   (Enter 0 0 to leave the number of pages blank.) If you make a mistake, press ← to back up and reenter the number of pages.

7. Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press 2 if you are finished choosing settings, and go to Step 8.

8. Enter the fax number you're calling.

9. Press Start.

### Always Send Cover Page

Make sure Station ID is set up. This feature does not work without the Station ID. (See *Setting Station ID*, page 4-2.)

You can set the MFC to send a cover page whenever you send a fax. The number of fax pages is not included when you use this setting.

1. Press Function, 1, 3, 1.

2. Press ← or → to select **COVERPAGE: ON?** and press Set.

```
COVERPAGE:OFF?
```

```
COVERPAGE:ON?
```

3. If you selected ON, press ← or → to select one of the standard or custom comments and press Set.

4. Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press 2 to exit if you are finished choosing settings.

### Using a Printed Cover Page

If you prefer using a printed cover page that you can write on, you can print the sample page and attach it to your fax.

1. Press Function, 1, 3, 1.

2. Press ← or → to select PRINT SAMPLE? and press Set.

3. Press Start. Your machine prints a copy of your cover page.

```
        === COVER PAGE ===

TO:       _____________

FROM:     ___________________
     FAX:
     TEL:

          PAGE[S] TO FOLLOW
COMMENT:
```

## Overseas Mode

After you send a fax using this feature, the feature turns itself off.

1. Insert document in the feeder or on the scanner glass.
2. Press Function, 1, 3, 5.

```
5.OVERSEAS MODE
```

3. Press ← or → to select ON (or OFF) and press Set.
4. Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press 2 if you are finished choosing settings and go to Step 5.
5. Enter the fax number you're calling.
6. Press Start.

## Delayed Fax

During the day you can store up to 50 documents in memory for delayed sending. Transmission of these documents will begin at the time of day you enter in Step 3. If you have set up a time of day in the Delayed Timer function, page 4-4, you can accept it or enter another time for this fax.

1. Insert the document in the feeder, or on the scanner glass.
2. Press Function, 1, 3, 6.

```
6.DELAYED FAX
```

3. Accept the displayed time or enter another time for this fax and press Set. (For example, enter 19:45 for 7:45 PM.)
4. Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press 2 if you are finished choosing settings and go to Step 6.
5. Enter the fax number.
6. Press Start.
   The MFC starts scanning the document into memory. It will wait until the time you have entered to send the fax.

The number of documents you can scan into memory varies with the data they contain.

## Multiple Resolution Transmission

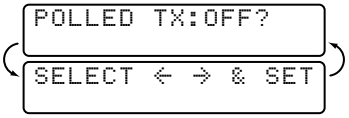
Use this feature to select separate resolution settings for each page of the fax you're sending. This could be useful if you're sending a fax with photos and letters, or some pages with small print and others with normal print. Resolution settings return to STANDARD after the fax is sent.

1. Insert documents in the feeder or on the scanner glass.
2. Press Function, 1, 3, 4.
3. Press ← or → to select resolution for page 1, and press Set.
4. Repeat Step 3 for subsequent pages.
5. Press Stop when you're finished.
6. Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press 2 if you are finished choosing settings, and go to Step 7. The screen prompts you to enter the fax number you want to call.
7. Enter the fax number you're calling.
8. Press Start.

## Setting Up for Polling Transmit

Polling Transmit is when you set up your MFC to wait with a document so another fax machine can retrieve it.

1. Place document to be retrieved in the feeder.
2. Press Function, 1, 3, 7.




3. Press ← or → to choose ON and press Set.
4. Press 1 if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press 2 if you are finished choosing settings and go to Step 5.
5. Press Start and wait for the fax to be polled.

# 7 Auto Dial Numbers and Dialing Options

## Storing Numbers for Easy Dialing

You can set up your MFC to do three types of easy dialing: One Touch, Speed Dial, and Groups for Broadcasting of faxes. You can store names with these numbers for easy identification.

If you must wait for another dial tone at any point in the dialing sequence, store a pause at that point in the number by pressing Redial/Pause. Each key press adds a 3.5 second delay.

### Storing One Touch Dial Numbers

You can store 16 fax/phone numbers that you can dial by pressing one key (and Start). To access numbers 9 to 16, hold down the **Shift** key. When you press a One Touch dial location, the screen displays the name or number as the call is dialed. (See *One Touch Dialing*, page 7-4.)

*One Touch keys are not the dial pad keys. They are the 8 keys (numbers 01–16) located on the left side of the control panel.*

**1** Press Function, 1, 5, 1.

**2** Press the One Touch key where you want to store a number.

(One Touch key 01 has been pre-programmed for the Brother Fax-Back System (USA only). You can override it if you wish.) The screen displays the location you selected.

**3** Enter a number (up to 20 digits) and press Set.
(See *Changing One Touch and Speed Dial Numbers*, page 7-2.)

If you want to enter a pause in the dialing sequence (for example, to access an outside line), press Redial/Pause as you're entering digits. Each key press of Redial/Pause enters a 3.5 second pause when the number is dialed, and a dash appears on the screen.

**4** Use the dial pad to enter the name (up to 15 characters) and press Set—**OR**—
Press Set to store the number without a name.
(See *Entering Text*, page 4-2.)

```
NAME:
```

**5** Press ← or → to select the type of number and press Set.

| | |
|---|---|
| **FAX** | a fax number |
| **TEL** | a telephone (voice) number |
| **FAX/TEL** | both fax and telephone number |

**6** Return to Step 2 to store another number**—OR—**Press Stop to exit.

If you lose electrical power, numbers stored in memory will *not* be lost.

## Storing Speed Dial Numbers

You can store Speed Dial numbers, so you can dial by pressing only three keys (and Start). There are 100 Speed Dial locations. (See *Speed Dial*, page 7-4.)

1. Press Function, 1, 5, 2.
2. Use the dial pad to enter a two-digit location (00–99) and press Set.

   SPEED-DIAL? #
3. Enter the number (up to 20 digits) and press Set.

   #05:
4. Use the dial pad to enter the name (up to 15 characters) and press Set. You can use the chart on page 4-2 to help you enter letters—**OR**—Press Set to store the number without a name.

   NAME:
5. Press ← or → to select the type of number and press Set:

   | | |
   |---|---|
   | **FAX** | a fax number |
   | **TEL** | a telephone (voice) number |
   | **FAX/TEL** | both fax and telephone number |
6. Return to Step 2 to store another Speed Dial number—**OR**—Press Stop to exit.

Even if you lose electrical power, numbers stored in memory will *not* be lost.

## Changing One Touch and Speed Dial Numbers

If you try to store a One Touch or Speed Dial number in a location where a number is already stored, the screen displays the current name stored there, then prompts you to either

1.CHANGE 2.EXIT

1. Press 1 to change the number, or press 2 to exit without changing it.
2. Enter a new number and press Set.
   - If you want to erase the number, press Clear when the cursor is to the left of the digits.
   - If you want to change a digit, use ← or → to position the cursor under the digit you want to change, then type over it.
3. Follow the directions from Step 4 for *Storing One Touch Numbers* or *Storing Speed Dial Numbers*.

## Setting Up Groups for Broadcasting

Groups allow you to send the same fax message to many fax numbers by pressing only one One Touch Group key (and Start). **First**, you'll need to store each fax number as a One Touch or Speed Dial number. **Then**, you can combine them into a Group. *Each Group uses up a One Touch key.* Finally, you can have up to six small Groups, or you can assign up to 115 numbers to one large Group. (See *Broadcasting*, page 7-5.)

You can include *up to* 16 One Touch numbers, and *up to* 100 Speed Dial numbers. If you broadcast to more than the maximum locations available, you will be unable to set up transmissions using Dual Access and the Timer.

(See *Storing One Touch Dial Numbers*, page 7-1 and *Storing Speed Dial Numbers*, page 7-2.)

1. Press Function, 1, 5, 3.

2. Select a One Touch key where you wish to store the Group number. *For example*, press One Touch key 02 for Group 1.

   ```
   SELECT ONE-TOUCH
   ```

3. Use the dial pad to enter the Group number and press Set. *For example*, press 1 for Group 1.

   ```
   SETUP GROUP:GO
   ```

4. To include One Touch or Speed Dial numbers in the Group, enter them as if you were dialing. For example, for One Touch key 05, press One Touch key 05. For Speed Dial location 09, press Speed Dial, then press 0, 9 on the dial pad. The display shows ✳05, #09.

   ```
   G01:*05#09_
   ```

5. When you're finished adding numbers, press Set.

6. Use the dial pad and the chart on page 4-2 to enter a name for the group and press Set. *For example*, NEW CLIENTS

   ```
   NAME:
   ENTER & SET
   ```

7. Press Stop to exit.

You can print a list of all One Touch and Speed Dial numbers. (See Chapter 9, *Printing Reports*.)

If you lose electrical power, numbers stored in memory will *not* be lost.

# Dialing Options

When you dial an auto dial number, the screen displays the name you've stored, or, if you haven't stored a name, the fax number you've stored.

## Searching Telephone Index

You can search for names you have stored in One Touch and Speed Dial memories. Names are stored alphabetically. (See *Storing One Touch Dial Numbers*, page 7-1 and *Storing Speed Dial Numbers*, page 7-2.)

1. Insert the document(s) in the feeder, or on the scanner glass.
2. Press Tel-index, then enter the first letter of the name you're looking for.
3. Press ← or → to search the memory.
4. When the screen displays the name you want to call, press Start to begin dialing.

## One Touch Dialing

1. Insert the document(s) in the feeder, or on the scanner glass.
2. Press the One Touch key of the location you want to call.
3. Press Start.

If you try to use a One Touch or Speed Dial location with no number stored in it, you hear a warning sound, and screen displays NOT REGISTERED. The display returns to normal after 2 seconds.

## Speed Dialing

1. Insert the document(s) in the feeder, or on the scanner glass.
2. Press Speed Dial, then press the two-digit Speed Dial number.
3. Press Start.

## Pause

Press Redial/Pause to insert a 3.5 second pause between numbers. If you are dialing overseas, you can press Redial/Pause as many times as needed to increase the length of the pause.

## Fax Redial

*If you're sending a fax manually* and the line is busy, press Redial/Pause to retry the number.

*If you're sending a fax automatically* (using the ADF) and the line is busy, the machine will redial automatically up to three times at 5 minute intervals.

## Broadcasting

Broadcasting is automatically sending the same fax message to multiple fax numbers. Using the Broadcast key, you can include Groups, One Touch locations, Speed Dial locations and up to 50 manually dialed numbers. If you did not use up any locations for Groups, access codes or credit card numbers, you can "broadcast" faxes automatically to up to 166 locations. However, available memory will vary with all types of jobs in memory and numbers of locations used for broadcasting. If you broadcast to more than the maximum locations available, you will not be able to set up transmissions using dual access and the timer.

Although the easiest way to broadcast is to press Group keys, you can include One Touch, Speed Dial, and manually dialed numbers in the same broadcast. You must press Broadcast between each of these locations. Use the Telephone Index to help you choose the numbers easily. (See *Setting Up Groups for Broadcasting*, page 7-3.) After the broadcast is completed, a Broadcast Report will be printed automatically to let you know the results.

- To stop the broadcasting in progress, press Stop. The LCD display asks if you want to cancel all locations or only the location that is being sent.
- Enter the long dialing sequence numbers as you normally would, but keep in mind that each key counts as one location, so the number of locations you can call becomes limited.
- If the line is busy while broadcasting, the MFC will redial the number automatically.
- If the memory is full, press Stop to abort the job or press Start to send the portion that is in the memory (if more than one page has been scanned.)

1. Insert the document in the feeder or on the scanner glass.
2. Enter a number using One Touch, Speed Dial, Group number, Tel-index or the dial pad.
   (Example: Group number)
3. Press Broadcast. You will be prompted to press the next number.
4. Enter the fax number.
   (Example: Speed Dial)
5. Press Broadcast.
6. Enter the fax number.
   (Example: Manual dialing, using the dial pad.)
7. Press Start.

   Your MFC will read the documents into memory and then start sending faxes to the numbers you entered.

Previously entered jobs still in memory will be sent first.

## Dialing Access Codes and Credit Card Numbers

Sometimes you may want to choose from among several long distance carriers when you make a call. Rates may vary depending upon the time and destination. To take advantage of low rates, you can store the access codes or long-distance carriers as One Touch and Speed Dial numbers. You can store these long dialing sequences by dividing them and setting them up separately in any combination. You can even include manual dialing using the dial pad. The combined number will be dialed in the order you entered it, as soon as you press Start. (See *Storing One Touch Dial Numbers*, page 7-1.)

*For example*:
You store "555" on One Touch key 03 and "7000" on One Touch key 02. If you press One Touch 03, 02 and Start you can dial "555-7000". To temporarily change a number, you can substitute part of the number with manual dialing using the dial pad. For example, to change the number to 555-7001 you could press One Touch 03 and press 7, 0, 0, 1 using the dialing pad.

Pause after dialing Speed Dial numbers for the name to be displayed before you enter the next portion of the dialing sequence.

# 8 Remote Fax Options

## Paging and Fax Forwarding

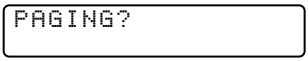
You cannot use Paging and Fax Forwarding at the same time.

To use Paging or Fax Forwarding you must set Fax Storage to ON.

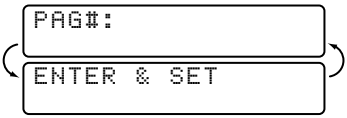
### Programming a Paging Number

When Paging is selected, your MFC dials the pager number you've programmed, and dials your Personal Identification Number (PIN) when connected, to activate your pager and let you know you have a fax message in the memory.

1. Press Function, 1, 7, 1.
2. Press ← or → until the screen displays **PAGING?** and press Set.




3. Enter your pager phone number (up to 20 digits) followed by # # and press Set. Do not include the area code if it is the same as that of your MFC.
*For example,*
1 8 0 0 5 5 5 1 2 3 4 # #.




4. If your pager requires a PIN, enter the PIN, press #, press Redial/Pause, enter your MFC telephone number followed by # # and press Set.
*For example,* 1 2 3 4 5 # Redial/Pause 1 8 0 0 5 2 1 2 8 4 6 # #.

**—OR—**

If you do not need a PIN, press Redial/Pause, enter the fax number of your MFC, then press # # and press Set.
*For example,*
Redial/Pause 1 8 0 0 5 2 1 2 8 4 6 # #.

5. Press Stop to exit.

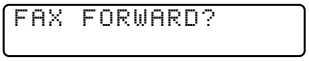
You cannot change a Paging number or PIN remotely.

Press Redial/Pause for each 3.5 second delay, as needed.

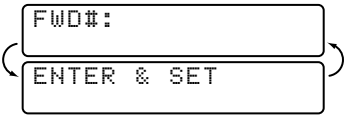
### Programming a Fax Forwarding Number

When Fax Forwarding is set to ON, your MFC stores the received fax in memory, then dials the fax number you've programmed, and forwards the fax message.

1. Press Function, 1, 7, 1.
2. Press ← or → until the screen displays **FAX FORWARD?** and press Set.




3. Enter the forwarding number (up to 20 digits) and press Set.

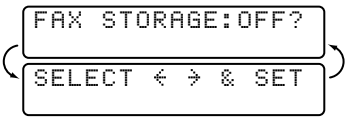



4. Press Stop to exit.

## *Setting Fax Storage*

If you set Fax Storage to ON, you will be able to retrieve fax messages from another location, using Fax Forwarding, Paging, or Remote Retrieval functions. The screen will indicate when you have a fax stored in memory. The memory can store up to 600 pages of faxes.

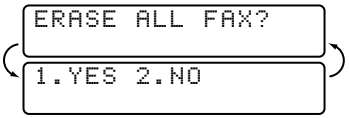
1. Press Function, 1, 7, 2.
2. Press ← or → to select **ON** (or OFF) and press Set.




3. Press Stop to exit.

If there are faxes in memory when you turn Fax Storage OFF, you must choose to delete them or exit without turning Fax Storage on.

4. Press 1, to erase faxes from memory and to turn Fax Storage off
—**OR**—
Press 2, to exit without deleting faxes or changing this setting.
(See *Printing a Fax in Memory*, page 5-4.)



# Remote Retrieval

You can call your MFC from any fax machine using touch tone, then use the Remote Retrieval Access Code and other button presses to retrieve fax messages.

## Changing Remote Retrieval Access Code

Enter your Remote Retrieval Access Code when the MFC picks up your call, so you can access features remotely. The access code is preset to 1 5 9 ✳, but you can change this. (See *Operation from Extension Telephones*, page 5-4.)

1. Press Function, 1, 7, 3.
2. Enter a three-digit number from 000 to 999 and press Set.
   The "✳" cannot be changed. Do not use the same digits that appear in your Fax Receive Code or Telephone Answer Code.
3. Press Stop to exit.

## Using Remote Retrieval Access Code

1. Dial your MFC phone number from a fax machine using touch tone.
2. When your MFC answers and beeps, immediately enter your Remote Retrieval Access Code (1 5 9 ✳).
3. The MFC signals the kinds of messages received:

   **1 long beep — Fax message(s)**

   **No beeps — No messages**
4. The MFC then prompts you with two short beeps to enter a command. If you wait longer than 30 seconds to enter a command, the MFC hangs up. If you enter an invalid command, the MFC beeps three times.
5. Press 9 0 to reset the MFC when you're finished.
6. Hang up.

If your MFC is set to Manual mode, you can access it by waiting about 2 minutes, then entering the Remote Retrieval Access Code within 30 seconds.

## Remote Commands

Follow the commands below to access features remotely. When you call the MFC and enter your Remote Retrieval Access Code (1 5 9 ✱), the system will signal you with two short beeps to enter a remote command.

| Remote Commands | | Operation Details |
|---|---|---|
| **95** | **Changing Fax Forwarding/ Paging setting** | |
| 1 | OFF | If you hear one long beep, the change is accepted. If you hear three short beeps, you cannot change it because the conditions have not been met. (Example: registering paging number.) You can register your fax forwarding number by using 4. FAX FWD NO. (See page 8-6.) Once you have registered the number, your MFC will change automatically to FAX FWD:ON mode. Then retrieve a Memory Status List by entering 961 (see page 8-5) to make sure that the Fax Forwarding number you registered is correct in the List. |
| 2 | Fax Forwarding | |
| 3 | Paging | |
| 4 | FAX FWD No. | |
| 6 | Fax Storage ON | You can turn FAX STORAGE to ON or OFF. |
| 7 | Fax Storage OFF | |
| **96** | **Retrieve a fax** | |
| 1 | Memory Status List | Enter the number of a remote fax machine to receive the Memory Status List or stored fax message(s). (See page 8-5.) |
| 2 | Retrieve all faxes | |
| 3 | Erase fax from the memory | If you hear one long beep, you can erase fax message(s) from the memory. |
| **97** | **Check the Receiving Status** | |
| 1 | Fax | You can check whether your MFC has received any fax message(s). If yes, you will hear one long beep. If no, you will hear three short beeps. |
| **98** | **Change Answer Mode** | If you hear one long beep, you can change the Answer Mode. If you hear three short beeps, you cannot change it. |
| 1 | EXT. TEL/TAD | |
| 2 | FAX | |
| **90** | **Exit** | After a long beep, you can exit remote control. |

## Retrieving Memory Status List

You can retrieve the Memory Status List from a remote fax machine to see if you have any fax messages.

1. Dial your fax number.
2. When you hear the beep, immediately enter your Remote Retrieval Access Code (1 5 9 ✱).
3. When you hear two short beeps, use the dial pad to press 9 6 1.
4. Using the dial pad, enter the number (up to 20 digits) of the remote fax machine where you want the Memory Status List forwarded, and then press # #.

   You cannot use ✱ and # as dial numbers. However, if you want to store a pause, press #.
5. After you hear your MFC beep, hang up and wait.

Your MFC calls the remote fax machine. The remote fax machine prints the Memory Status List.

## Retrieving Fax Messages

1. Dial your fax number.
2. When you hear the beep, immediately enter your Remote Retrieval Access Code (1 5 9 ✱).
3. As soon as you hear two short beeps, use the dial pad to press 9 6 2.
4. Using the dial pad, enter the number (up to 20 digits) of the remote fax machine where you want your fax messages forwarded, and then press # #.

You cannot use ✱ and # as dial numbers. However, if you want to store a pause, press #.

5. After you hear your MFC beep, hang up and wait.

   Your MFC calls the remote fax machine. The remote fax machine prints your fax messages.

## Changing Fax Forwarding Number Remotely

You can change the default setting of your fax forwarding number from a remote fax machine.

1. Dial your fax number.
2. When you hear the beep, immediately enter your Remote Retrieval Access Code (1 5 9 ✱).
3. When you hear two short beeps, use the dial pad to press 9 5 4.
4. Enter the new number of the remote fax machine where you want your fax messages forwarded, and then press # #.

You cannot use ✱ and # as dial numbers. However, if you want to store a pause, press #.

5. To retrieve the Memory Status List, when you hear two short beeps, use the dial pad to press 9 6 1.
6. Use the dial pad to enter the number of the remote fax machine (up to 20 digits), and then press # #.
7. After you hear your MFC beep, hang up and wait.

   Your MFC calls the remote fax machine. The remote fax machine prints the Memory Status List showing the new forwarding number.
8. Check the forwarding number.

   If the forwarding number is incorrect, return to Step 1 to reset it.

# 9 Printing Reports

## MFC Settings and Activity

You can print the following lists and reports:

| | |
|---|---|
| 1.XMIT REPORT | Choose if you would like a Transmission Verification Report printed after every fax you send. |
| 2.ACT.REPORT | Activity Report lists information about the last 50 incoming and outgoing faxes. TX means Transmit; RX means Receive. |
| 3.ALL DIAL | Lists names and numbers stored in One Touch and Speed Dial memory, in numerical order. |
| 4.TEL.INDEX | ALL DIAL list (above), alphabetically. |
| 5.USER SETTINGS | Lists settings for INITIAL SETUP, SETUP RECEIVE, SETUP SEND, PRINT REPORTS, TEL SERVICE and REMOTE FAX OPT. |
| 6.MEMORY STATUS | Lists summary information and amount of occupied memory. |

### To Print a Report

1. Press Function, 1, 6.
2. Enter the number of the report you want to print. For example, press 4 to print the TEL-INDEX.

For the Activity Report, also press ← or → to select PRINT REPORT? and press Set.

3. Press Start.
4. Press Stop to exit.

## Transmission Verification (Xmit) Report

You can use the Xmit Report as proof that you sent a fax. This report lists the name or fax number of the receiving party, the time and date of transmission, and if the transmission was successful.

When the feature is OFF, the report is printed only if there's an error during transmission. If the report indicates NG, send the document again.

When the feature is ON, the report is printed with every fax you send.

1. Press Function, 1, 6, 1.
2. Press ← or → to select ON or OFF and press Set.
3. Press Stop to exit.

## Activity Report Interval

You can set the MFC to print activity reports at a specific interval (6, 12, 24 hours, 2, 4 or 7 days). If you set the interval to OFF, you can print the report by following the steps in the previous section.

1. Press Function, 1, 6, 2.
2. Press ← or → to display:

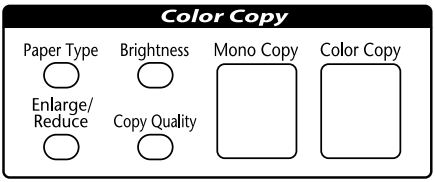
   ```
   INTERVAL?
   ```

   and press Set.
3. Press ← or → to choose your setting and press Set.
   (If you choose 7 days, the screen prompts you to choose a day at which to begin the 7-day countdown.)
4. Enter the time to begin printing, in 24-hour format and press Set.
   (For example, enter 19:45 for 7:45 PM.)
5. Press Stop to exit.

# 10 Making Copies

## Color Copy Keys

Your Multi-Function Center allows you to make high-quality photocopies and transparencies. Copies can be in full color, one color, or black and white. Always make sure you have paper in the cassette before making copies. Do not pull on the paper while copying is in progress.




## Basic Copy Operations

### Copying One Page

1. Place the document in the feeder, or on the scanner glass.
2. Press Mono Copy or Color Copy.
3. Press Mono Copy or Color Copy again.
   (Make sure it's the same key you pressed in Step 2.)

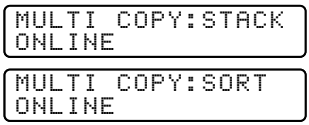
```
COPYING      P.01
ONLINE
```

To stop, press Stop. Press Stop again to release the original document.

## Multiple Copies (Using the ADF)

You can make multiple copies using the document feeder. When you use Mono Copy or Color Copy, you can choose whether the copies will be **STACKED** (all copies of page 1, then all copies of page 2, etc.) or **SORTED** (collated). (See *Memory Full Message*, below.)

1. Place the document in the feeder.
2. Press Mono Copy or Color Copy.
3. Using the dial pad, enter the number of copies you want (up to 99) and press Set.
   *For example*, press 3, 8 for 38 copies.
4. Press ← or → to select **SORT** (or **STACK**) and press Set.

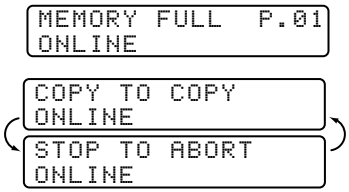



5. Press Mono Copy or Color Copy again.
   (You must press the same key you pressed in Step 2.)

If you get a MEMORY FULL message, you may be able to make multiple copies if you first print incoming faxes in memory and restore the memory to 100%.

## Memory Full Message

If the memory becomes full while you're making copies, the screen displays a message:




If you were scanning the first page of your document, press Stop to cancel, then make a single copy. If you were scanning subsequent page(s), press Copy to print the scanned pages—**OR**—Press Stop to cancel.

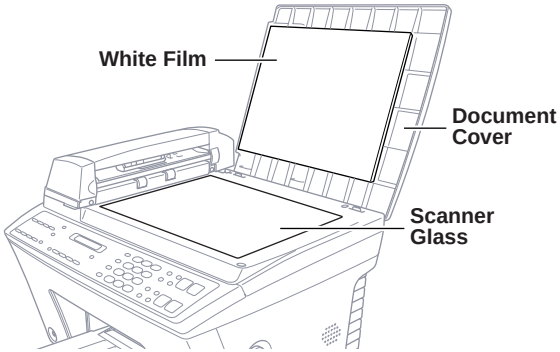
You'll need to clear some fax messages before you can continue.

To gain extra memory, you can turn off Fax Storage (see page 8-2) —**OR**—print fax messages in memory (see page 5-4).

## Multiple Copies (Using the Scanner Glass)

You can make multiple copies using the scanner glass. When you use Mono Copy or Color Copy you can choose whether the copies will be **STACKED** (all copies of page 1, then all copies of page 2, etc.) or **SORTED** (collated). (See *Memory Full Message*, page 10-2.)

**1** Lift the Document Cover.




**2** Using the document guidelines on the left, center the document face down on the scanner glass.

**3** Press Mono Copy or Color Copy.

**4** Using the dial pad, enter the number of copies you want (up to 99) and press Set.
*For example*, press 3, 8 for 38 copies.

**5** Press ← or → to select STACK and press Set.
The MFC begings coping.

```
MULTI COPY:STACK
ONLINE
```

**—OR—**
Press ← or → to select SORT and press Set, then go to Step 5.

```
MULTI COPY:SORT
ONLINE
```

If you get a MEMORY FULL message, you may be able to make multiple copies if you first print incoming faxes in memory and restore the memory to 100%.

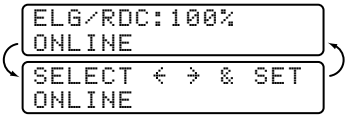
**6** Place the next page to be copied on the scanner glass and press Set.

```
SET:NEXT SCAN
ONLINE
COPY:TO END
ONLINE
```

**7** Press Mono Copy or Color Copy again.
(You must press the same key you pressed in Step 2.)

## Enlarged or Reduced Copies (Temporary Setting)

1. Place the document in the feeder, or on the scanner glass.
2. Press [Enlarge/Reduce].
3. Press [←] or [→] to choose an enlargement or reduction ratio and press [Set].




You can reduce to **93%**, **87%**, **75%**, **50%,** or **25%** of the original size
—**OR**—
You can enlarge to **120%**, **125%**, **150%**, **200%,** or **400%**
—**OR**—
You can select **MANUAL** and press [Set], then use the dial pad to enter an enlargement or reduction ratio between **25%** and **400%** and press [Set].
*For example*, press [5], [3] to enter **53%**.

4. Press [Mono Copy] or [Color Copy].
5. Using the dial pad, enter the number of copies and press [Set]
   —**OR**—
   Keep the default (01) by pressing [Set].
6. For multiple copies. press [←] or [→] to select **SORT** (or **STACK**) and press [Set]. (Only for multiple copies)

■ When selecting Fixed Reduction, you need to know the size of the paper as registered in Function 1-2-6.

If you make a copy the same size as the original document size, you should choose a reduction of 93%. (*For example*, to make a copy from letter to letter, you should choose a reduction of 93%.)

Selecting the Ratios of Fixed Reduction

| **Original Document the size of…** | **Paper size is…** | **Recommmended reduction ratio is…** |
|---|---|---|
| LETTER DOCUMENT | LETTER<br>LEGAL | 93%<br>100% |
| A4 DOCUMENT | LETTER | 87% |
| LEGAL DOCUMENT | LETTER<br>LEGAL | 75%<br>93% |

# Copy Quality – Temporary Settings

You can *quickly* improve the copy quality by using the Copy Quality, Paper Type and Brightness keys. These settings are temporary, and the MFC returns to its default settings when you finish copying. You might want to try different combinations of settings to see which best suits your needs.

## Using the Copy Quality Key

The Copy Quality key changes the settings for quality (NORMAL, HIGH, PHOTO, or DRAFT).

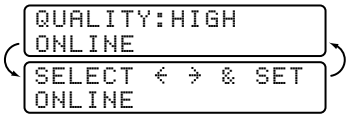
**DRAFT:** Fast copy speed and lowest ink consumption. Use DRAFT to save time (documents to be proof-read, large documents, or many copies).

**NORMAL:** Recommended mode for ordinary printouts. Good copy quality with adequate copy speed.

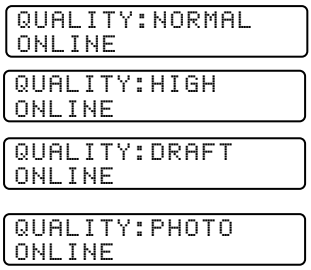
**HIGH:** Better copy quality than normal and faster copy speed than PHOTO.

**PHOTO:** Use this mode to copy precise images such as photographs. PHOTO uses the highest resolution and slowest speed.

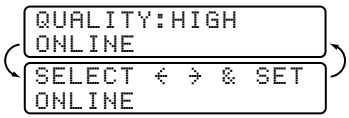
1. Place the document in the feeder, or on the scanner glass.
2. Press Copy Quality.




3. Press ← or → to select copy quality resolution and press Set.




4. Press ← or → to select the kind of image you're copying and press Set.



## Using the Paper Type Key

If you use premium paper, the copy quality is improved. You can choose PLAIN PAPER, INK JET PAPER, GLOSSY PAPER, or TRANSPARENCY. For best results, we recommend using Brother special paper.

1. Place the document in the feeder, or on the scanner glass.
2. Press Paper Type.

```
PAPER:PLAIN
ONLINE
```

3. Press ← or → to select a paper type and press Set.

```
SELECT ← → & SET
ONLINE
```

```
PAPER:PLAIN
ONLINE
```

```
PAPER:INK JET
ONLINE
```

```
PAPER:GLOSSY
ONLINE
```

```
PAPER:TRNSPRNCY
ONLINE
```

If you are using Brother coated paper for 360 dpi (BP36CL), 720 dpi (BP72CL) or if you are using non-Brother ink jet paper, select **INK JET** and press Set.

4. If you selected INK JET, press ← or → to select **360DPI**, **720DPI** (Brother 720 x 720) or **OTHER** (non-Brother ink jet) paper type, and press Set.

## Using the Brightness Key

You can choose brightness setting before making a copy.

1. Insert the document in the feeder, or on the scanner glass.
2. Press Brightness.
3. Press ← to make a darker copy and press Set.

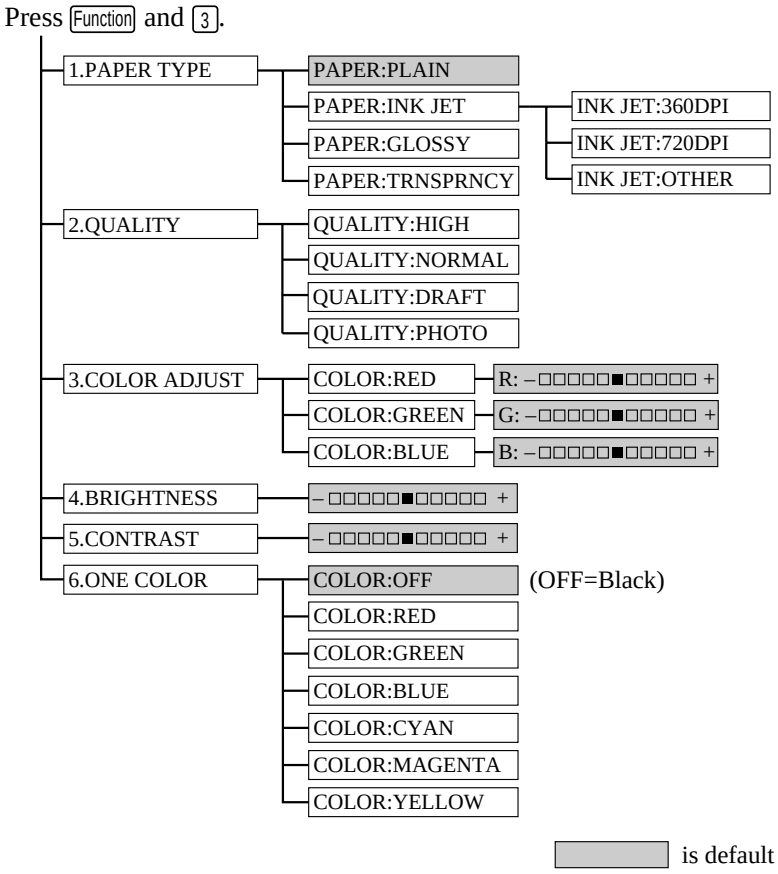
**—OR—**

press → to make a lighter copy and press Set.

# Copy Quality – Changing Default Settings

Press Function, 3 to change default settings for Copy mode. These settings will remain until you change them again by pressing Function. Adjust the colors using the Color Adjustment, Brightness, and Contrast settings.

By pressing a number, you can adjust copy settings as shown in the following chart. Press ← or → to scroll through the options for each setting. Press Set to save your selection. Press Stop to exit—**OR**—Press → to select the next setting you want to change.



## Select Paper Type

1. Press Function, 3, 1.
2. Press Set.
3. Press ← or → to select your paper type and press Set:

```
1.PAPER TYPE
```

```
PAPER:PLAIN
```

```
PAPER:INK JET
```

```
PAPER:GLOSSY
```

```
PAPER:TRNSPRNCY
```

If you use Brother coated paper for 360 dpi, or 720 dpi (BP72CL), select **INK JET**, then select **360DPI** or **720DPI**. If you use non-Brother ink jet paper, select INK JET, then select **OTHER**. If you did not select INK JET, go to Step 5.
(For information on ordering Brother paper, see page ii.)

4. Press ← or → to select **360DPI, 720DPI** or **OTHER** and press Set.
5. Press Stop to exit.

The MFC ejects paper onto the top of the paper cassette cover with the printed side face up. When you use transparencies, remove each sheet immediately, to prevent a paper jam or curled sheets.

## Select Copy Quality

This feature is available only for color copying.

1. Press Function, 3, 2.
2. Press ← or → to select the copy quality and press Set.
3. Press Stop to exit.

```
QUALITY:HIGH
```

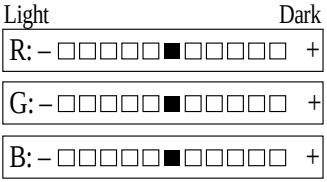
```
QUALITY:NORMAL
```

```
QUALITY:DRAFT
```

```
QUALITY:PHOTO
```

## Color Adjustment

1. Press Function, 3, 3.
2. Press ← or → to select RED, GREEN, or BLUE and press Set.




3. Press ← or → to adjust the degree of color and press Set.
4. Return to Step 2 to select the next color —**OR**— Press Stop to exit.

## Copy Brightness

You can adjust the brightness setting before making a copy.

1. Press Function, 3, 4.
2. Press ← to make a darker copy and press Set—**OR**— Press → to make a lighter copy and press Set.
3. Press Stop to exit.

## Copy Contrast

You can choose the contrast setting for a copy. Greater contrast can help an image look sharper and more vivid. This feature is available only for color copying.

1. Press Function, 3, 5.
2. Press ← to decrease contrast and press Set—**OR**— Press → to increase contrast and press Set.
3. Press Stop to exit.

## Selecting a Single Color (One Color)

For black and white originals, you can select a single color for Mono Copy, instead of black. **OFF** is the setting for Black.

1. Press Function, 3, 6.
2. Press ← or → to select a copy color and press Set. The options are **OFF**, **RED**, **GREEN**, **BLUE**, **CYAN**, **MAGENTA**, and **YELLOW**.
3. Press Stop to exit.

# Legal Limitations

Color reproductions of certain documents are illegal and may result in either criminal or civil liability. This memorandum is intended to be a guide rather than a complete listing of every possible prohibition. In case of doubt, we suggest that you check with counsel regarding questionable documents.

Copyrighted works cannot be copied; however, sections of a copyrighted work can be copied for "fair use." Multiple copies would indicate improper use.

The following documents issued by the United States/Canadian Government or any of its Agencies may not be copied:

- Paper money
- Bonds or other certificates of indebtedness
- Certificates of Deposit
- Internal Revenue Stamps (canceled or uncanceled)
- Selective Service or draft papers
- Passports
- United States/Canadian Postage Stamps (canceled or uncanceled)
- Food Stamps
- Immigration Papers
- Checks or drafts drawn by Governmental agencies
- Identifying badges or insignias
- Licenses and Certificates of Title to motor vehicles (under certain state/provincial laws)

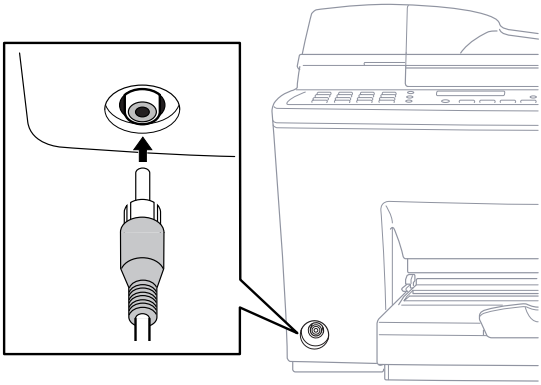
Works of art should be considered the equivalent of copyrighted works.

# 11 Walk-Up Video Printing

## Getting Started

Walk-Up Video Printing lets you use your MFC, connected to your camcorder, digital camera, video game, or VCR, to view a video on the attached equipment. The video signal and the output you create are NTSC (National Television System Committee). This is not compatible with any other standard.

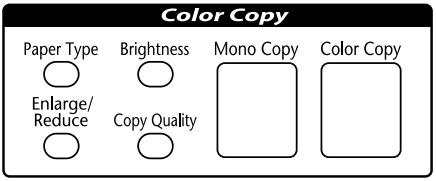
With no documents in the feeder, plug the cable from you video camera's Video Out jack into the MFC's RCA pin jack. Play the video.



Some camcorders, digital cameras, video games or VCRs do not **correctly** conform with NTSC standards. Then you would not be able to capture video signals.

### Auto Switch

Whenever you connect video equipment to the MFC and turn the video signal on, the MFC Paper Type and Copy Quality keys automatically switch to video printing mode




and the screen displays

```
VIDEO:PRESS COPY
CAPTURE READY
```

As soon as you turn off the video equipment or disconnect it, the MFC returns to normal copy mode for Paper Type and Copy Quality.

The Auto Switch will not work if you have too much in memory.

## *Color Video Printing*

1. With no documents in the feeder, plug the cable from your video camera's Video Out jack into the MFC's RCA pin jack.
2. Play the video. When the MFC begins receiving the video signals, the MFC screen displays

```
VIDEO:PRESS COPY
CAPTURE READY
```

3. Press Color Copy when you see the picture you want to capture and print.
4. Using the dial pad, enter the number of copies you want (up to 99).
5. Press Color Copy to begin printing.

If the MFC is not receiving video signals, Color Copy will not work. However, if a document is in the feeder, the MFC will print a color copy of it.

# Black & White Video Printing

For Black and white video printing, follow the steps for Color Video Printing, using Mono Copy instead of Color Copy.

# Video Print Quality – Temporary Settings

You can quickly improve the copy quality of video printouts by using the Copy Quality, Paper Type and Brightness keys. These settings are temporary, and the MFC returns to its default settings when you finish printing. You might want to try different combinations of settings to see which best suits your needs.

## Using the Copy Quality Key

Your MFC allows you to customize the quality of your video copies by letting you select the video print quality and paper type. You might want to try different combinations of settings to see which best suits your needs. The settings are temporary.

1. **Make sure there is no document in the feeder.** Plug the cable from your video camera's Out jack into the MFC's RCA pin jack.

2. Press Copy Quality.

```
QUALITY:NORMAL
ONLINE
```

3. Use ← or → to select copy quality and press Set.

```
QUALITY:NORMAL
ONLINE
```

```
QUALITY:HIGH
ONLINE
```

If there is too much in memory, the print quality will change.

4. Press ← or → to select the video type and press Set.

```
VIDEO:MOVING
ONLINE
```

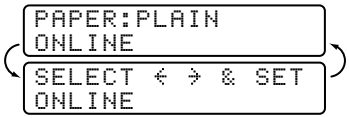
```
VIDEO:STILL
ONLINE
```

5. Press Mono Copy or Color Copy to begin printing.

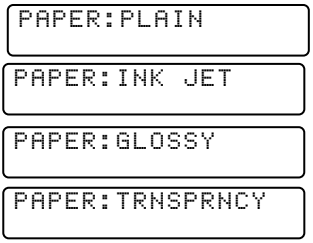
## Using the Paper Type Key

If you use premium paper, video print quality is improved.

1. With no documents in the feeder, plug the cable from your video camera's Out jack into the MFC's RCA pin jack.
2. Press Paper Type.




3. Press ← or → to select paper type and press Set.




If you are using Brother coated paper for 360 dpi (BP36CL) or 720 dpi (BP72CL), select **INK JET**, then select **360DPI** or **720DPI**. If you are using non-Brother ink jet paper, select **OTHER**.

4. Press Mono Copy or Color Copy to begin printing.

## Using the Brightness Key

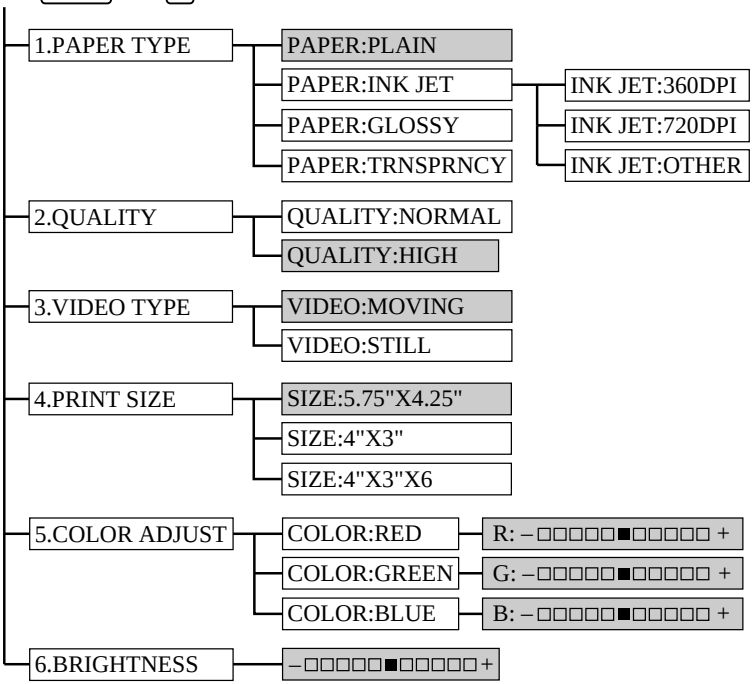
You can increase or decrease the brightness of your video copy.

1. With no documents in the feeder, plug the cable from your video camera's Out jack into the MFC's RCA pin jack.
2. Press Brightness.
3. Press ← to make a darker copy and press Set—**OR**—
   Press → to make a lighter copy and press Set.

# Changing Default Settings

By pressing Function, 4 and a number, you can adjust video printing settings as shown in the following chart. Press ← or → to move through the selection for each setting. Press Set to save your selection.

Press Function and 4.




is default

## Setting Paper Type

1. Press Function, 4, 1.
2. Press ← or → to select paper type and press Set.

```
PAPER:PLAIN
PAPER:INK JET
PAPER:GLOSSY
PAPER:TRNSPRNCY
```

If you are using Brother coated paper for 360 dpi (BP36CL) or 720 dpi (BP72CL), select **INK JET**, then select **360DPI** or **720DPI** (in Step 3). If you are using non-Brother ink jet paper, select **OTHER** (in Step 3).

3. When the screen displays your selection, press Set.
4. Press Stop to exit.

## Setting Video Printing Quality

1. Press Function, 4, 2.
2. Use ← or → to select a quality and press Set.

```
QUALITY:NORMAL
QUALITY:HIGH
```

3. Press Stop to exit.

## Setting Video Type

Before you turn on the video signal, you must set the MFC to receive either a moving or a still image. You can watch the video play on the video camera and press Mono Copy or Color Copy when you see the frame you want to print.

1. Press Function, 4, 3.

```
3.VIDEO TYPE
```

2. Press ← or → to select video type and press Set.

```
VIDEO:STILL
VIDEO:MOVING
```

3. Press Stop to exit.

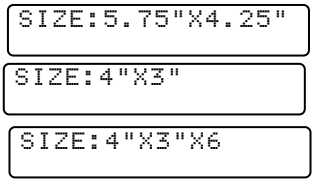
You can press Clear in Step 2 to return to the previous step.

If you don’t have enough memory to process the selected video image, the print quality may be poor even for a still frame.

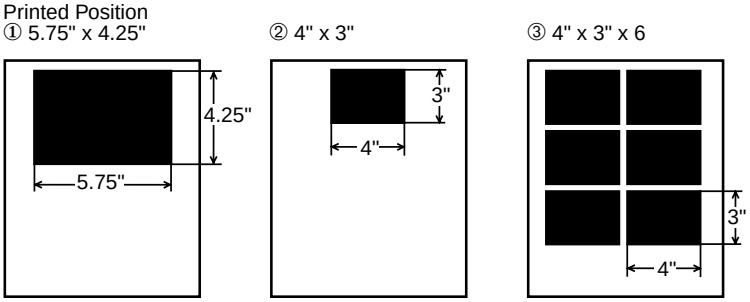
## Setting Print Size

**1** Press Function, 4, 4.

**2** Press ← or → to select print size and press Set.




**3** Press Stop to exit.




## Video Printing Color Adjustment

**1** Press Function, 4, 5.

**2** Press ← or → to select **RED**, **GREEN**, or **BLUE** and press Set.

**3** Press ← or → to adjust the degree of color and press Set.

**4** Return to Step 2 to select the next color —**OR**— Press Stop to exit.

### Video Printing Brightness

You can increase or decrease the brightness setting before making a copy.

1. Press Function, 4, 6.
2. Press ← to make a darker copy and press Set.—**OR**—
   Press → to make a lighter copy and press Set.
3. Press Stop to exit.

## *Video Capture from the PC*

Please see *Video Capture from the PC*, page 16-9 or the Multi-Function Link® Pro On-Line Documentation (on CD-ROM 1) for instructions on using your MFC and computer for video frame capture.

# 12 Setting Up the MFC and Computer to Work Together

## Before You Install Multi-Function Link® Pro Software

Your MFC and computer can work together only if you install the Brother Multi-Function Link® Pro Software. Mult-Function Link Pro turns your machine into a multi-function center, by using it as a color printer and a color scanner and enabling PC faxing from Windows® applications in your computer. In addition, the included FaxSpeed software enables you to fax color images and files. Multi-Function Link® Pro does all this without taking over your personal computer. Multi-Function Link® Pro operations run in the background of your PC memory, keeping your personal computer free for other tasks.

**WARNING**

It is important that you hook up your MFC to your computer before you install the software.

Before you install the Multi-Function Link® Pro, you must read the README.WRI file in the root directory of the CD-ROM (or Floppy Disks) for important installation and troubleshooting information.

## If You Don't Have a CD-ROM Drive

All software is supplied on CD-ROM. If you need a Floppy Diskette version you must tell the Brother Representative the version of Windows® that you are using and your MFC model number. To order, call Brother at 1-888-879-3232 (**USA**), 1-800-668-2768 (**from within Canada**) or 1-514-685-6464 (**from within Montreal**).

Only Multi-Function Link® Pro and PaperPort® are available on Floppy Disks, item numbers DSK9131 (for Windows® 3.1*x*) and DSK9195 (for Windows® 95/98). If you are using Windows NT® Workstation Version 4.0, the software is not available on Floppy Diskette.

## Computer Requirements

The following are the minimum computer requirements you need to set up and operate the MFC as a printer. Use only a shielded interface cable that is IEEE-1284 compliant, and that is less than 6.5 feet (2 meters) long.

| | | |
|---|---|---|
| CPU | Pentium 75 or Higher | |
| RAM | 8MB or greater for Windows® 3.1*x*<br>8MB or greater for Windows® 95 (16MB recommended)<br>16MB or greater for Windows® 98 and Windows NT® Workstation Version 4.0 (32MB recommended) | |
| Hard Disk Drive | 50MB | CD-ROM 1 |
| | 150MB | CD-ROM 1 & 2 |
| Operating System | Windows® 3.1*x*, 95/98 or NT® Workstation Version 4.0, DOS environment compatible with your Windows® version | |

# Connecting the MFC to the Computer

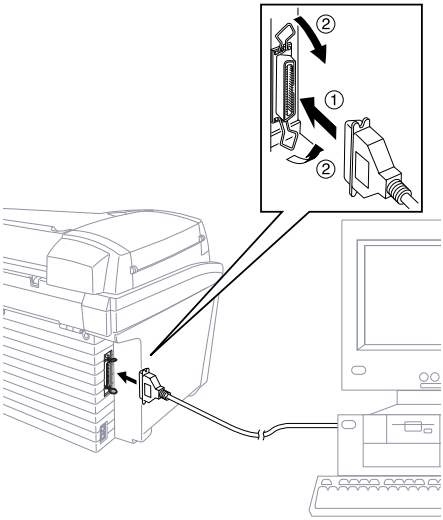
When you connect the MFC to your computer, you must use the included Brother bi-directional IEEE-1284 compliant parallel cable.

**1** Unplug the MFC power cord from the electrical outlet before connecting the parallel interface cable.

**2** Make sure the computer is turned off and unplugged from the electrical power before you connect the interface cable.

**3** Connect the parallel interface cable to the parallel interface port of the MFC and secure the wire clips.

**4** Connect the interface cable to the printer port of the computer and secure with the two screws.




For the location of your computer's parallel printer port, see the User's Guide for your computer.

**5** Before plugging in the electrical cord of the MFC, plug in your computer and turn it on.

(For Windows® 95)
If "Update Device Driver Wizard" appears, select "Do not install a driver" and click **OK**.
—**OR**—If "Add New Hardware Wizard" appears, click **Next** to bypass each screen. Click **Finish** on the last screen.

(For Windows® 98)
If "Add New Hardware Wizard" appears, follow the instructions on the screen, then click **Next** to bypass each screen. Click **Finish** on the last screen.

# Installing Multi-Function Link® Pro Software (CD-ROM 1)

**IMPORTANT**

To install the software using Windows NT® Workstation Version 4.0, you must be logged on as the Administrator. After Multi-Function Link® Pro is installed, restart Windows NT® a second time and again log in as the Administrator, so you can complete the Remote Setup application. Afterward, log in using your normal User name.

## Overview of Basic Steps

1. Insert the Brother CD-ROM into your CD-ROM drive.
2. Enter the command for your version of Windows®, if needed. (See *Installing the Brother Software*, page 12-5.)
3. Select the software option that suits your needs.
4. Follow the installation instructions.

## Choosing the Software to Install

### Install Multi-Function Link® Pro Software

The complete set of software will be installed: Multi-Function Link® Pro, PaperPort® viewer, including ScanSoft™ TextBridge® OCR, and Brother scanner driver, printer drivers and True Type Compatible fonts, install:

- Install Multi-Function Link® Pro

### Install NetCentric™ FaxStorm

If you want to be able to do Internet faxing from your computer anytime, anywhere without using your MFC, install:

- NetCentric™ FaxStorm

### Install Automatic E-Mail Printing

If you want your e-mail messages automatically to be retrieved from your POP3 server and printed on the MFC, install:

- Automatic E-Mail Printing

### Install FaxSpeed

If you want to be able to send color files by fax, install:

- FaxSpeed

### Install Printer and Scanner Drivers Only

If you only want to print and scan, you can install only the Brother MFC drivers, install:

- Printer and Scanner Drivers

## Other Options

### View On-Line Documentation

All instructions are in the On-Line Documentation and Help files on CD-ROM 1.

### View Product Support Information

This is a page of all Brother support numbers.

### Brother Web Link

Brother Web Link visits the Internet Brother Home Page on the World Wide Web. You can find more information about Brother products, from product specification sheets to Frequently Asked Questions (FAQ's). You must have service with an Internet service provider.

### Exit

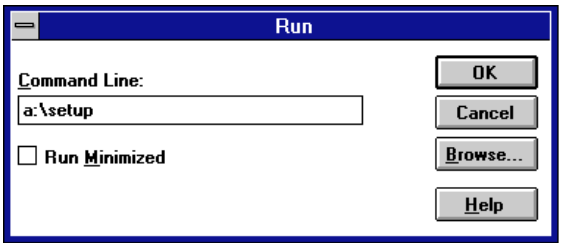
Click **Exit** to exit the CD-ROM window, or click **Return** to return to the previous window.

## Installing the Brother Software

1. Insert the Brother CD-ROM into your CD-ROM drive.
2. Enter the command for your version of Windows®, if needed:

After you insert the Brother CD-ROM, you must type the appropriate command for your version of Windows®:

- If you are using Windows® 3.1*x*, from the Program Manager, click File, then Run. Then type ***x*:\SETUP.EXE**. ("*x*" is the drive letter for your CD-ROM drive.) This will start the Software Installation program.



- If you are using Windows® 95/98 or Windows NT® Workstation Version 4.0, the Software Installation program appears automatically when you insert the Brother CD-ROM.
- For Windows® 95/98 and Windows NT® Workstation Version 4.0, you can also click on Start at the Desktop, select Run and then enter ***x*:\SETUP.EXE**.

If you are using Windows NT® 3.51 or earlier, the following error message will appear on the screen: *You are running Windows NT® 3.51 or earlier. Brother MFL Pro does not support this version of Windows NT®. YOU MUST UPGRADE TO WINDOWS NT 4.0 AND REINSTALL MFL Pro!!*

If you are using Windows NT® Workstation 4.0 and you are not logged-in as the Administrator, an error message appears explaining the problem.

A window will appear listing the options:

For each application you install, click on its name in the Software Installation window and follow the instructions on the screen. The last step will be to restart Windows® and access the Software Installation window again to install the next application.

**3** Click on "Install Multi-Function Link® Pro Software" and follow the prompts on the screen.

After you install the Multi-Function Link® Software, and restart your PC. The MFC Remote Setup dialog box will be displayed on your PC screen. MFC Remote Setup allows you to quickly set up your MFC by taking advantage of the ease and speed of programming on your PC. When you access this application, the settings on the MFC will be displayed on your PC so you can change them as needed and then download them to the MFC.

**4** After the install is finished, click “On-Line Documentation” to access on-line documentation for Multi-Function Link® Pro and PaperPort®. The On-Line Documentation window will appear:

**5** In the On-Line Documentation window, click on “Install Acrobat Reader” and follow the prompts on the screen. You must install Acrobat Reader before you can view on-line documentation. You can print the On-Line Documentation by selecting *Print* from the *File* pull-down menu.

## Helpful Hints for Windows® 3.1*x*

- The installer automatically updates your SYSTEM.INI Windows® file by adding DEVICE=bi-di.386 under the [386Enh] section. If any bi-directional parallel communications device driver has previously been installed, it will be deactivated by this new driver. If you want to use the driver that was previously installed, you should first install this driver, then reinstall your previous driver. However, reinstalling the previous driver will make the MFC driver inactive.
- The installer makes the installed printer driver the Windows® default.
- The installer automatically sets the printer port to the parallel interface, LPT1 (for Windows® 3.1*x*) and BRMFC (for Windows® 95/98) and BMFC (for Windows NT® Workstation 4.0).
- During this installation, changes have been made to the **SYSTEM.INI** file. It is necessary to restart Windows® so the changes and the installed bi-directional parallel communications device driver can take effect.

**IMPORTANT**

Please see the **README.WRI** file in the root directory of the CD-ROM (or diskette) for last minute important installation and troubleshooting information.

# *Receiving Messages into the PC*

To receive faxes into your PC through the MFC: (See *Connecting the MFC to the Computer*, page 12-3.)

1. Make sure the MFC is connected to the PC. The PC and the Multi-Function Link® Pro Main Menu must be running at all times.
2. Load the Multi-Function Link® Pro software into your PC. (See *Installing Multi-Function Link® Pro Software* (CD-ROM 1) page 12-4.)
3. On your PC in the Multi-Function Link® Pro software:
   - **A** Select Setup from the Preferences... pull-down menu in the Main Menu.
   - **B** Under Answer Mode select Fax only.
   - **C** Click the OK button.
4. Check that the Multi-Function Link® Pro mode is ON (see below).

## Multi-Function Link® Pro Mode

You can switch Multi-Function Link® Pro Mode on and off as needed. If you want your fax messages to go directly into your PC, make sure the MF Link setting is ON. If you want faxes to print on your MFC when they arrive, you can switch MF Link mode to OFF. (See *On-Line Documentation for Multi-Function Link® Pro* on the Brother CD-ROM and *Using the Multi-Function Link® Pro Software* Chapter 15, page 15-1.)

1. Press Function, 1, 2, 8.
2. Press ← or → to select ON (or OFF) and press Set.
3. Press Stop to exit.

# 13 Using MFC as Printer

## Features

The Multi-Function Center offers you many features you'll find in a high quality ink jet printer.

**Fast Printing Speed**—Using Draft mode, you can print 4 pages per minute in full color.

**Brilliant 4-Color Output at 360 dpi**—Printing at 360 dpi resolution on special coated paper or plain paper gives you normal resolution output.

**Brilliant 4-Color Output at 720 dpi**—Printing at 720 dpi resolution on special coated paper or glossy paper gives you high resolution output.

**Brilliant 4-Color Output at 1440 dpi**—Printing at 1440 dpi resolution on special coated paper or glossy paper gives you highest resolution output.

**Low Running Cost**—Whenever you run out of a particular color ink, you'll replace only the cartridge that's empty.

**Suitable Uses**—You can print from both Windows and DOS operating systems. When you print from DOS, the MFC uses ESC/P.

**Bi-directional Parallel Interface**—The parallel interface allows bi-directional (IEEE 1284 compliant) communication with your computer.

## Printer Driver

You can change the following printer settings when you print from your computer:

- Quality - Speed/Media Setting
- Color Correction Control
- Color Adjustment
- Brightness/Contrast Adjustment/Halftone Selection
- Start Maintenance Program
  (See Chapter 14, *Windows® Printing*.)

## Choosing the Right Kind of Paper

To achieve high quality printing using your MFC, it's very important to select the right kind of paper. Be sure to read "About Brother Paper" on page 3 of Chapter 2 in this manual before selecting and purchasing paper for the MFC.

## Multi-purpose Paper Cassette

The multi-purpose paper cassette can feed plain paper, coated paper, glossy paper, transparancies, envelopes, and organizer paper (K, L). When the MFC receives data from your computer, it begins the print process by loading paper from the multi-purpose paper cassette.

1. Select the print command from your PC.
2. Your PC sends a print command and data to the MFC. The screen displays the date and time, and RECEIVING DATA.
3. If there are more pages, the MFC begins to print the next page automatically.
4. When the MFC finishes printing all data, it returns to online status.

You can select paper source, paper size, and orientation in your application software. If your application software does not support your custom paper size, select the next larger paper size. Then adjust the print area by changing the right and left margins in your application software.

## Loading Paper in Multi-purpose Paper Cassette

You can use plain paper, coated paper, transparencies, glossy paper, envelopes and organizer (K, L) in the multi-purpose paper cassette. (See *Paper*, page 2-3 and *Loading Paper in the Multi-Purpose Paper Cassette*, page 2-6 for more information about paper.)

**1** Remove the paper cassette (lift and pull out).

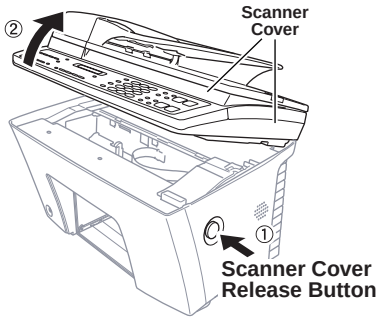
**2** Remove any paper from the paper cassette, and fan the stack of paper before loading. Load the paper stack with the *print (coated) side face down*. Slide the paper guide. Make sure the paper is stacked below the maximum paper height line. You can load up to 250 sheets of 20 lb (75g/$m^2$) plain paper.

**3** Close the paper cassette cover and reinstall the cassette.

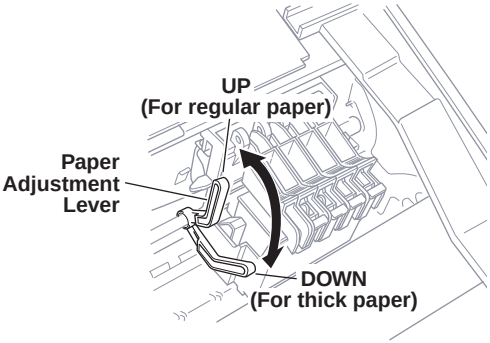
### Adjusting for Thick Paper and Envelopes

If the paper is thicker than 20 lb (75 g/$m^2$), you must adjust the paper thickness lever.

**1** Press the Scanner Cover Release Button and lift up the scanner cover.




**2** Move the purple paper thickness adjustment lever *down*. (When you print on regular paper, keep the lever *up*.)



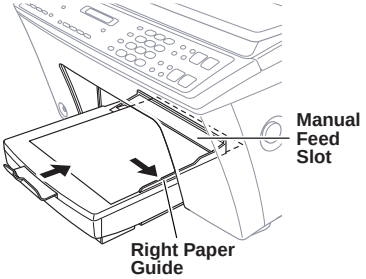

**3** Close the scanner cover.

## Manual Feed Slot

You can feed *one sheet at a time* into the Manual Feed Slot. Paper loaded in the Manual Feed Slot is printed first, even when there is paper in the multi-purpose paper cassette.

If you want to print more than one page using the Manual Feed Slot, on your PC, in the printer driver Properties Paper tab, select “manual feed”.

1. Place the paper on top of the paper cassette with the *print side face down*.
2. Align the paper against the right paper guide and slide it into the manual feed slot.

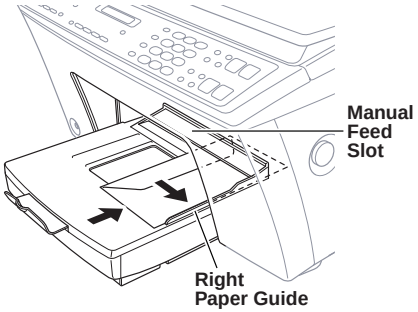



If you forget to insert paper in the manual feed slot, the MFC will print from the cassette.

## Setup for Envelopes

You can use the manual feed slot to print one envelope at a time.

1. Select the paper size setting in the printer driver Properties window. (See *Paper Tab*, page 14-2.)
2. Press the Scanner Cover Release Button, then lift the scanner cover.
3. Move the purple paper thickness *adjustment lever down*.
4. Close the scanner cover.
5. Place an envelope on top of the paper cassette, with the *print side face down*.



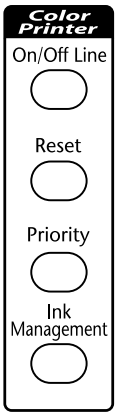

6. Align the envelope against the right paper guide and slide it into the manual feed slot.
7. From your PC application, tell the MFC to begin printing. On completion, you can place another envelope in the manual feed slot.

# Simultaneous Printing/Fax

Your MFC can print data from your computer while sending or receiving a fax, or while scanning information into the computer. However, when the MFC is copying or receiving a fax on paper, it pauses the PC printing operation, and resumes when copying or fax receiving is complete. Fax sending will continue during PC printing.

# Printer Operation Keys

## On/OffLine Key




This key toggles the MFC's OnLine and OffLine print status, which appears on the display. If you press this key while printing, the MFC immediately stops printing and goes offline. Press On/Off Line again to resume printing.

## Reset Key

If the screen displays REMAINED DATA, you can clear data remaining in the printer memory by pressing On/Off Line, then pressing Reset.

## Priority Key

When you press Priority, the MFC enters printer mode, and will not print faxes on paper. Instead, faxes are stored in the memory until you press Priority again.

## Ink Management Key

When you press Ink Management, the screen displays

```
1.CLEANING
```

```
2.REPLACE INK
```

If you are having trouble with one of the ink colors, you may need to clean the print head, page 21-10.

If you got an error message NEAR EMPTY or INK EMPTY, you will need to replace the ink cartridge for the appropriate color. (See Chapter 21, *Troubleshooting and Routine Maintenance*.)

## Turning Off Bi-directional Printing

You can further improve print quality by turning off bi-directional printing and setting the MFC to print in one direction only. However, this will reduce print speed by one half.

1. Press Function, 2, 3.

2. Press 2 to select OFF (or 1 to select ON).

# 14 Windows® Printing

## Printer Emulation

If you are printing from the Windows® environment, it is best to choose the GDI **Brother MFC 9100 Series** printer driver. Other emulations may reduce performance. If you need to print from DOS, the MFC 9100C will emulate EPSON LQ-510, LQ-850 and LQ-2550.

## Using the Maintenance Utility Program for Printing from DOS

Before printing from DOS applications, you must use this DOS utility and select the paper size. You can select the following in this program.

| Maintenance | Data 1 | Data 2 |
|---|---|---|
| Cleaning | Quality | Character Pitch |
| Black | Page Length | LF Pitch |
| Yellow | Character Set | Auto CR |
| Cyan | Auto LF | Zero Font |
| Magenta | Text Print Direction | Paper Size |
| | Condensed | Black Emphasis |
| | | Code Page |

### Installing the Brother MFC 9100 Series DOS Tools

Use these tools only in the DOS environment. When you print in DOS mode, select an **EPSON ESC/P** (LQ-510, LQ-850, LQ-2550) compatible emulation driver in your application.

1. Insert the supplied "CD-ROM 1" into your CD-ROM drive.
2. Type **CD *x*:DOS**

Substitute the drive letter of your CD-ROM drive for "*x*".

3. Type **DOSETUP**, then press **Enter**. The main screen appears on your computer.
4. Make your selection from the list above.

Before printing, you must set the paper size in this utility **and** in your DOS application.

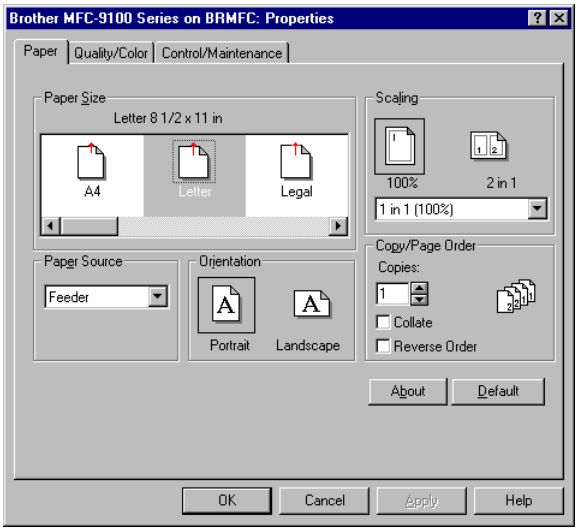
# Using the Brother MFC 9100 Series Printer Driver

The Brother MFC 9100 Series printer driver enables you to change settings and override defaults as you change your paper, document type, and colors for printing. In the Brother MFC 9100 Series on BRMFC: Properties dialog box there are three tabs: Paper, Quality/Color, and Control/Maintenance, so you can change print properties as needed.

## Paper Tab

The paper tab screen allows you to set up the Paper Size, Paper Source, Orientation, Scaling, and Copies.

To access the Brother printer driver, select **Print** from the File menu. In the Print dialog box, select **Brother MFC 9100 Series** from the Name drop down list. Click the Properties button. The Brother MFC 9100 Series on BRMFC: Properties dialog box will appear:




Select the **Apply** button to apply your selected settings.

To return to the default settings, click the **Default** button, then click the **Apply** button.

## Paper Size

You can select the size of paper and envelopes and also define other sizes of paper.

| | |
|---|---|
| Letter (US) | 8 1/2 x 11 inches (215.9 x 279.4 mm) |
| Legal (US) | 8 1/2 x 14 inches (215.9 x 355.6 mm) |
| Executive (US) | 7 1/4 x 10 1/2 inches (184.2 x 266.7 mm) |
| A4 (International) | 8.17 x 11.7 inches (210 x 297 mm) |
| A5 (International) | 5.8 x 8.3 inches (148 x 210 mm) |
| Envelopes | |
| B5 (International envelope) | 6.9 x 9.8 inches (176 x 250 mm) |
| C5 (International envelope) | 6.4 x 9 inches (162 x 229 mm) |
| COM-10 | 4 1/8 x 9 1/2 inches (104.8 x 241 mm) |
| DL (International envelope) | 4.3 x 8.7 inches (110 x 220 mm) |
| Monarch (US envelope) | 3 7/8 x 7 1/2 inches (98.4 x 190.5 mm) |
| Organizer K, L | 3 3/4 x 6 3/4 inches (95.3 x 171.5 mm) |

## User Defined Paper Size

The printer can handle any paper size within the following range.

| | | |
|---|---|---|
| **Minimum** | 3.75 x 6.75 inches | (95.3 x 171.5 mm) |
| **Maximum** | 8.5 x 14 inches | (215.9 x 355.6 mm) |

In this option, you can specify a custom-sized paper and save it by following this procedure:

1. Measure the paper size you want to use.
2. Select User Defined... in the paper size option.
3. Enter a unique name for your paper in the Custom Paper Size Name box.
4. Select either inch or mm for the unit of measure.
5. Type in the length and width.
6. Click the **Save** button to store the size. If necessary, you can delete a preset size by choosing the Delete button.

Your Windows application software may override this setting. Make sure you have set the proper paper size in your application software. In addition, check the margin settings when you select the smallest paper size. If they are too large, it may result in nothing being printed.

## Paper Source

For the MFC, you can choose Feeder or Manual.

### Feeder

The **multi-purpose sheet feeder** is primarily used for printing on standard-size paper and envelopes.

### Manual Feed

If your paper has difficulty feeding from the sheet feeder, we recommend using the Manual paper feed method. You will have to load paper sheet by sheet. The MFC stops before printing and the Printer Driver shows "Please load one sheet…" message. Insert a sheet into the manual feed slot and click "OK" to resume printing.

## Orientation

Print orientation may be **Portrait** or **Landscape**. Portrait orientation means the page is taller than it is wide when you view the printed text upright. Landscape orientation means the page is wider than it is tall when you view the printed text upright.

## Scaling

Use this function to reduce or enlarge your document, from 50% to 200%.

### 2 in 1

Two pages are printed on one sheet at a reduced size. If you checked the "2 in 1 box", you cannot specify the scaling percentage manually.

If your application software contains a similar function to this, both settings will be effective. **Do not use the two selections simultaneously.**

## Copies

The **Copies** selection tells Windows how many copies you want to print from a software application.

This setting is independent of the “copies selection” that may be available within the print menus of your software application.
**Do not use the two selections simultaneously.**

### Collate

In multiple page jobs that are **uncollated,** several copies of Page 1 are printed followed by several copies of Page 2, followed by several copies of Page 3, etc. For example, for 2 copies of a 3 page document, the MFC prints Page 1, Page 1, Page 2, Page 2, Page 3, and Page 3 in order.

In multiple page jobs that are **collated**, a complete set of pages in a job are printed followed by another complete set of pages. For example, printing 2 copies of a 3 page document, the MFC prints Page 1, Page 2, Page 3, then Page 1, Page 2, and Page 3 in order. In this case, the MFC starts printing after processing all the print data so that it takes a longer time for collated printing than uncollated printing.

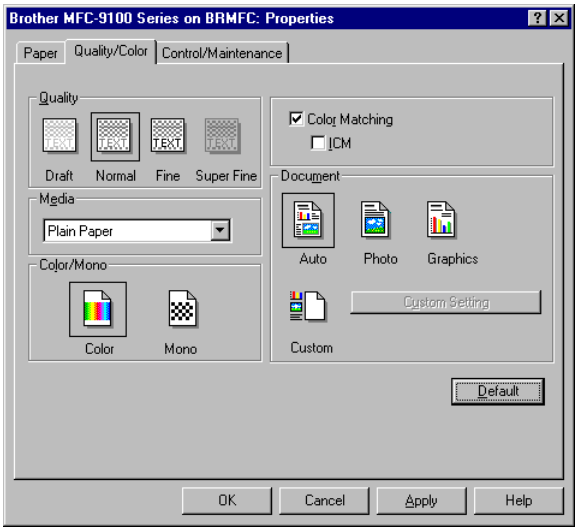
### Reverse Order

The MFC normally prints Page 1 and ejects it face-up so that the following pages are stacked on top of previous pages. (Page 5, Page 4, Page 3 ..... Page 1) When you want to get correct-ordered printouts, use this function. The MFC spools the job in your computer and sends the data starting from the last page to the printer. Since the MFC prints from the last page forward, the printouts are stacked Page 1, 2, 3, ...Page 5. Please note that this function takes more time.

# Quality/Color Tab

The Quality/Color tab enables you to select the print quality, media, colors (matched to PC monitor, custom colors, or mono), and document type.

Click the Quality/Color tab to display this screen:




Select the **Apply** button to apply your selected settings.

To return to the default settings, click the **Default** button, then click the **Apply** button.

## Quality

Select the print quality. The print quality and speed are related. Higher quality takes a longer time to print.

**Draft :** 360 x 180 dpi. The fastest print mode (approximately two to four times faster than normal mode) and gives lower ink consumption. Use this mode to print large volume documents or a document for proofing.

**Normal :** 360 x 360 dpi. Recommended mode for ordinary printouts. Good print quality with comfortable printing speed.

**Fine :** 720 x 720 dpi. Better print quality than normal and faster print speed than Super Fine.

**Super Fine :** 1440 x 720 dpi. Use this mode to print precise images such as photographs. Since the print data is much larger than normal mode, processing time, data transfer time, and printing time will be longer.

## Media

Select the media (type of paper). The MFC changes the way it places dots depending on the selected media type. To get good print output, make sure to select the correct media type.

Selecting media type changes the print quality selection to the most suitable one as listed below. We recommend that you print with the preset quality for best printing result.

| Paper Type | Suitable print quality |
|---|---|
| Plain Paper | Normal |
| Coated (360) Paper | Normal |
| Coated(720) Paper | Fine |
| Glossy Paper | Super Fine |
| Transparency | Normal |
| Transparency (mirror) | Normal |

Use only genuine Brother Coated Paper (Ink Jet), Glossy Paper, or Transparencies to get the best print quality. Non-Brother special paper may not produce the best quality.

## Color/Mono

### Color

When your document contains color and you want to print it in color, select this mode. Only generic colors will appear on the printout (unless you also select color matching).

### Mono

Select this mode if your document has only black and gray scale text and/or objects. Mono mode makes the print processing speed faster than color mode. If your document contains color, selecting Mono mode prints your document in 256 levels of gray scale.

## Controlling the Color

To get accurate color matched output between the monitor and MFC, the color data should be adjusted for the MFC before printing.

Color adjustment is provided by both Windows® 95/98 and this printer driver. Using this feature, the color data is adjusted by Win95 and 98 ICM or the Brother MFC 9100 series printer driver and you can get colors more closely matching those appearing on the PC monitor.

When you are using a software application that has its own color matching engine, turn this setting off. The color matching system from that application is then used.

Windows® 95/98 have color matching engines called ICM - Image Color Matching in its Operating System. ICM uses a profile of each device (monitor, scanner, printer, MFC) to know the characteristics of individual devices and correct the difference between them. When this is set to off, the Brother MFC-9100 Series printer driver will do the color adjustment. At present, the ICM feature is not supported by all the monitor and printer vendors and if ICM does not have your PC monitor's profile, then ICM cannot work correctly. Moreover, ICM takes a longer time.

When using Windows® 3.1*x*, this selection is grayed (dimmed).

## Document

The printer driver will select the most suitable color matching method depending on your document type. Generally, text and business graphics are printed vividly and photographic images are printed softly.

- **Auto**
  The printer driver automatically selects the document type. In most cases, we recommend using the Auto setting.
- **Photo**
  Select this mode for Photographic images.
- **Graphics**
  Select this mode for documents that contain text or business graphics such as charts or clip art.
- **Custom**
  If you want to select the color matching method and halftone method manually, select this mode and press the Custom Setting button to access further settings.

## Custom Setting

You can customize your settings by selecting the type of color matching, half tone, and effect that will be used.

### Color Matching

You can select the color matching method manually. Since the way of reproducing color and the reproducible range of color between the monitor and the MFC are different, color matching adjusts this difference. There are several ways to adjust color for your MFC. Select the best one for your document. Execute PC monitor calibration to make these settings and make the result effective.

- **Photo** (Available only when ICM is turned On.)
  Suitable for photographic images. When adjusting color, color tone is kept as original as possible. All colors are adjusted evenly, so you can get natural color tones.
- **Graphics** (Available only when ICM is turned On.)
  Suitable for Graphics and text. When adjusting color, color vividness is kept as much as possible. You can get vivid and clear color.
- **Logo** (Available only when ICM is turned On.)
  When you need an exact color match such as for company logos etc., use this selection.
- **Match Monitor** (Available only when ICM is turned Off.)
  Suitable for photographic images. Color is adjusted to get the closest color match to the PC monitor.
- **Vivid Color** (Available only when ICM is turned Off.)
  Suitable for business graphics such as charts, graphs, and text. The color is adjusted to give more vivid color.

### Halftone Pattern

The MFC can use several methods to arrange where to place dots to express halftones. There are some predefined patterns used to place dots and you can select which one is used for your document. Select the appropriate method.

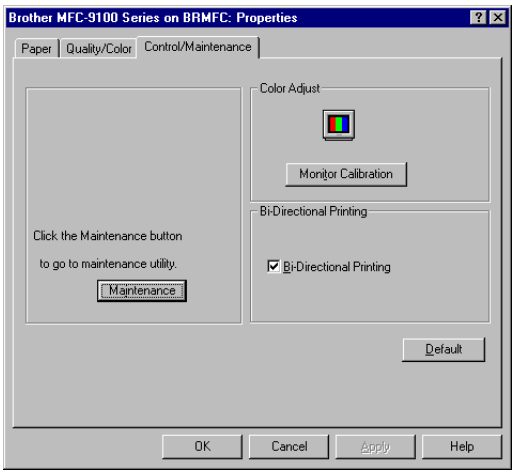
- **Cluster**
  This is suitable for business graphics such as charts, graphs and drawings, since this creates more sharp printouts. Moreover, the processing time is shorter.
- **Photo**
  This method creates smooth halftones so that this is suitable for photographic images. It takes more time to process data, but this can express more levels of halftones and creates more natural images.

### Effect

- **Brightness**
  Change the brightness of the whole image lighter or darker. Moving the scroll bar to the left makes your image darker and moving the scroll bar to the right makes your image lighter.
- **Contrast**
  Change the contrast of an image. Darker sections will be more dark and lighter sections will be more light as you increase the contrast. Increase the contrast when you want an image to be clearer. Decrease the contrast when you want an image to be more subdued.
- **Red**
  Increase the intensity of the Red color to add red to the whole image.
- **Green**
  Increase the intensity of the Green color to add green to the whole image.
- **Blue**
  Increase the intensity of the Blue color to add blue to the whole image.

## *Control/Maintenance Tab*

Select the Control/Maintenance tab from the Brother MFC 9100 Series printer driver dialog box:




Select the **Apply** button to apply your selected settings.

To return to the default settings, click the **Default** button, then click the **Apply** button.

## Monitor Calibration

If you want to get the closest color to your PC monitor on the printouts, calibrate your monitor by clicking this button.

The method used to express color is different between monitors and the MFC. The PC monitor uses the three primary colors—Red, Green, Blue—to create full colors and the MFC uses four colors—Cyan, Magenta, Yellow, and Black—to create full colors.

To get the closest color match, the color matching system should adjust the color by referring to the monitor's characteristics and MFC's characteristics. To discover the monitor's characteristics, this monitor calibration program is used. As the printer driver knows the MFC's characteristics, it converts the color on the monitor for the MFC.

## Bi-Directional Printing

The MFC prints by moving its print head. Normally, it prints in both directions. By turning this option OFF (default setting is ON), the MFC prints (uni-directional) so that the print speed will be reduced to half.

Sometimes the moving speed of the print head may not be stable due to temperature changes, etc., and the printed vertical line may not be aligned exactly. If you encounter this problem, turn this option off or use the Maintenance menu and adjust the vertical line.

## Maintenance

Select the Maintenance button to display the Maintenance screen, where you can do a test print on the MFC to check the colors. If the test print shows a problem, you can clean the print head on the MFC.

## The Cleaning Tab

### Test Print

When you see problems on printouts, click the **Test Print** button to print the test page and check if any dots are missing or ink cartridges are empty.

Before printing the test page, load Letter size paper in the MFC. Press the **Test Print** button to start printing the test page.

### Cleaning

If you see dots are missing on the printout, clean the print head. Print the test page and to see which color has problems.

1. Select the color to be cleaned.
2. Press the **Clean** button.

   The MFC starts cleaning.

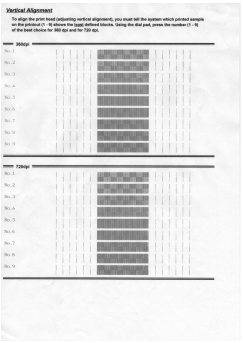
   Wait until **Online** shows again on the MFC display.

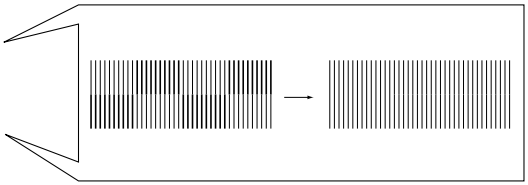
## The Printer Adjustment Tab

### Vertical Alignment

If you see poor print quality,

1. Please check that the printer is connected to the PC, turned **ON** and loaded with Letter size paper.
2. Click the **Vertical Alignment** button to print a set of Vertical Alignment test patterns.



3. Using the Up/Down scroll control, select the best aligned print sample (1 to 9) for 360 and 720 dpi.

   The best aligned sample is where the printed vertical line is straight and the upper and lower shaded squares are the same.

# 15 Using Multi-Function Link® Pro Software

## Introduction

This chapter outlines the basics of the Brother software, so you can get started using the Multi-Function Link® Pro software. Detailed installation and setup instructions are in the *On-Line Documentation* section of the Brother CD-ROM 1 that is included with your MFC.

> Check the online README.WRI file in the root directory of the CD-ROM 1 for last-minute important information and troubleshooting tips that were not included in the On-Line Documentation.

Multi-Function Link® Pro software for your MFC includes PaperPort® for Brother and TextBridge®. (See Chapter 16, *Using PaperPort® and Scan Soft™ TextBridge®*.)

Software by: SMITHMICRO SOFTWARE

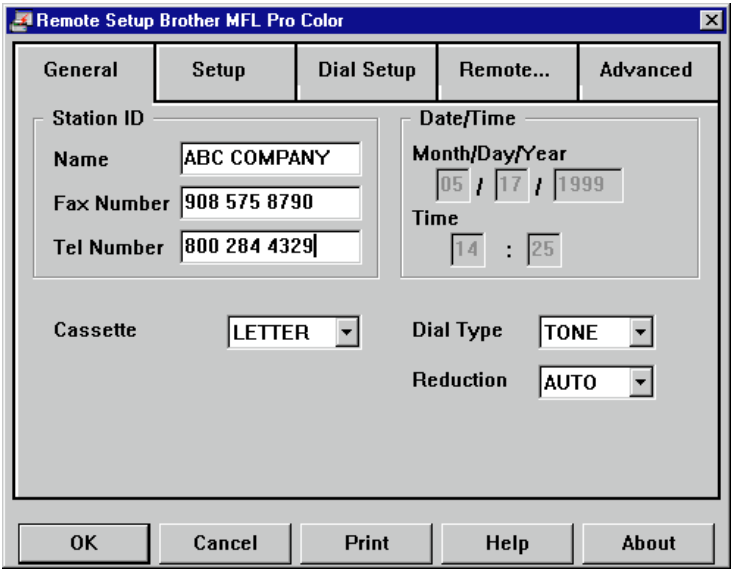
### Brother Resource Manager

The Brother Resource Manager application must be running for you to use your MFC with your Windows® computer. Multi-Function Link Pro software and the MFL Pro Printer Driver automatically load the Resource Manager, as needed. The Resource Manager allows the single bi-directional Parallel port on the MFC to simulate a Communications port for faxing and scanning and to simulate a Parallel port for Windows® GDI printing. The MFC also can use Epson LQ-510, LQ-850 and LQ-2550 printer emulation, which do not require the Resource Manager.

# MFC Remote Setup

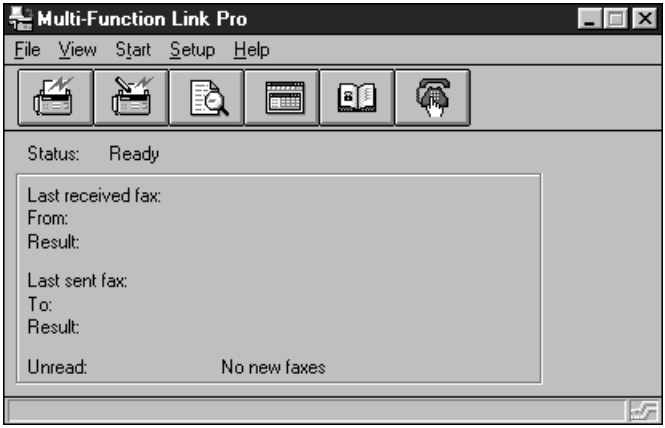
The MFC Remote Setup application allows you to quickly set up your MFC by taking advantage of the ease and speed of programming on your PC. When you access this application, the settings on your MFC will be downloaded automatically to your PC and displayed on your computer screen. If you change the settings, you can upload them directly to the MFC.

Select the MFC Remote Setup icon from the Multi-Function Link® Pro program group. The Remote Setup screen will appear:



# Multi-Function Link® Pro Main Menu

The Multi-Function Link® Pro Main Menu is the application used for all fax sending and receiving operations. It also contains an electronic Phone Book program and a Log Manager that maintains a record of all PC fax transactions. The Main Menu can be accessed through the Brother Multi-Function Link® Pro program group.




# Sending a Fax from Your PC

## Sending a Quick Fax

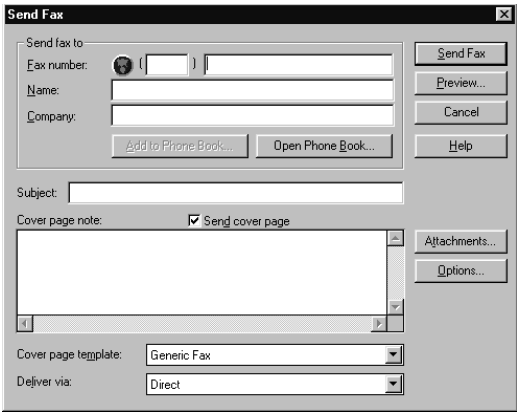
A QuickFax is a cover page only fax with a message. This option is very useful when you want to fax a quick, short message from your PC.

1. From the Main Menu, select the QuickFax button—**OR**—Select QuickFax from the Start pull-down menu. The QuickFax screen will appear.
2. Enter the Fax number, Name, and Company information in the appropriate fields on the screen—**OR**—Select the Open Phone Book… button to choose someone from your phone book.
3. Complete the Subject and QuickFax note fields.
4. Click the Send Fax button.

## Sending a Fax from the Main Menu

You can send a fax from the Main Menu and attach multiple files. The "attachments" can even be in different file formats.

1. From the Main Menu window, select the Send Fax button—**OR**—Select Send Fax from the Start pull-down menu. The Send Fax window will appear:




2. Enter the Fax number, Name, and Company information in these fields —**OR**—Select the Open Phone Book button to choose someone from your phone book.
3. Complete the Subject and Cover page note fields.
4. Click on the Attachments… button to add any file(s) you want to fax with it.
5. Click the Send Fax button.

## Sending a Fax from a Windows® Application

You can send a fax directly from any Windows® application using the following steps:

1. Create the document in a Windows® application.
2. Select **Brother MFL Pro Fax** as your printer.
3. Select the Print command to begin the fax transmission. The Fax Sending dialog box will appear :
4. Enter the name and fax number of the recipient—**OR**—Select the Open Phone Book… button and choose a name. Select Close to return to the Send Fax dialog box.
5. Select the Send cover page check box to include a cover page.
6. Select the Send Fax button.

# Receiving Faxes into the PC

To receive faxes into your PC through the MFC, you must first have connected your MFC to your computer. Then, you can load the Multi-Function Link® Pro software. (See *Setting up the MFC and Computer to Work Together*, page 12-1.)

Use the following checklists for the MFC and PC, to make sure you have properly set up the MFC and PC to work together.

### Checklist for the MFC

1. To make sure the MF Link mode is active, press Function, 1, 2, 8.
2. Use ← or → to select ON (not OFF).
3. Press Set.

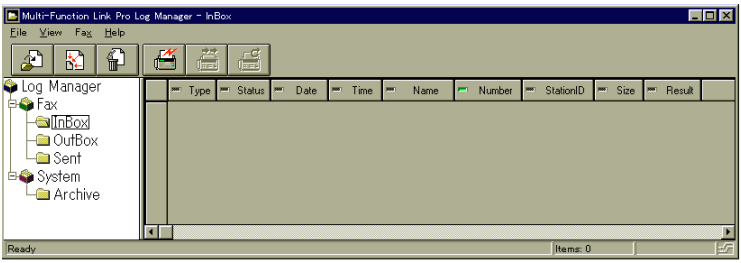
Set MF Link mode to OFF *only if* you want all incoming faxes to be printed at the MFC.

### Checklist for Your PC

1. Make sure the MFC is connected to the PC.
2. In the Main Menu, select the Setup pull-down menu.
3. Select Preferences...
4. Under Answer Mode, select Fax only.
5. Click the OK button.
6. Keep the PC and the Multi-Function Link Pro Main Menu running at all times.

## Viewing Received Faxes

Faxes that are received into the PC will appear in the InBox of the Log Manager. To access the Log Manager, from the Main Menu click the Log Manager button—**OR**—From the Start pull-down menu, select Mail/Log.

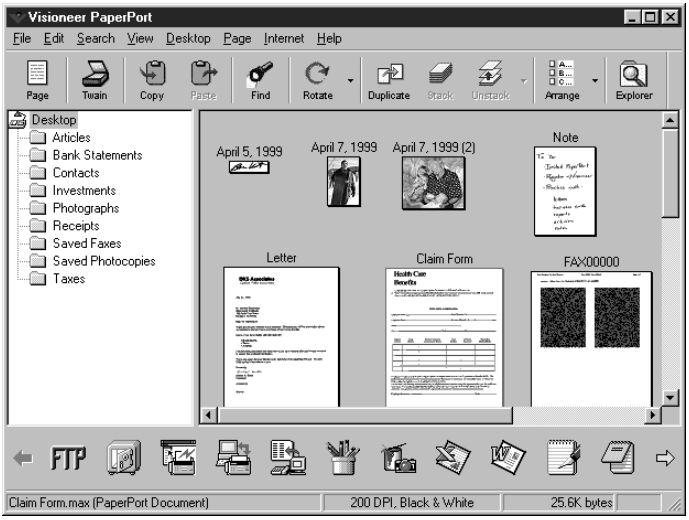



1. In the Log Manager, select the Fax folder.
2. Then select the InBox folder. A listing of your incoming messages will appear on the right side of the window.
3. Double-click on the fax you wish to view.

   The PaperPort® Viewer will run automatically and the fax you selected from the list will be displayed. (See *Using PaperPort and TextBridge®*, page 16-1.)

# 16 Using PaperPort® and ScanSoft™ TextBridge®

PaperPort® for Brother is a document management application. You will use PaperPort® to view incoming faxes and scanned documents. PaperPort® has a sophisticated, yet easy-to-use, filing system that will help you organize your documents. It allows you to combine or “stack” documents of different formats for printing, faxing or filing. PaperPort® can be accessed through the PaperPort® program group. See *On-Line Documentation for Multi-Function Link® Pro* on the CD-ROM.

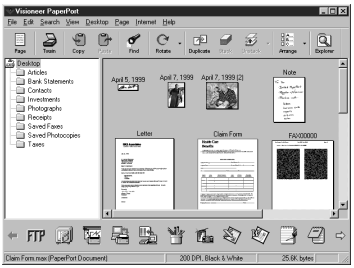



The complete PaperPort® Owner’s Manual, including ScanSoft™ TextBridge® OCR, is in the On-Line Documentation on the CD-ROM. This chapter is only an introduction to the basic operations.

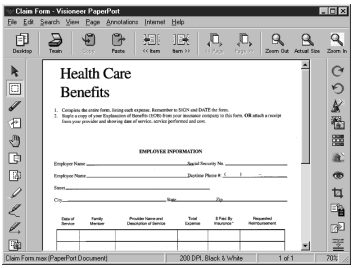
## Viewing Items in PaperPort®

PaperPort® provides several ways to view items: **Desktop View** displays a **thumbnail**, a small graphic that represents each item in a Desktop or folder. Items in the selected folder appear on the PaperPort® Desktop. You can see PaperPort® items (MAX files) and non-PaperPort® items (files created using other applications). Non-PaperPort® items include an icon that indicates the application that was used to create the item; a non-PaperPort® item is represented by a small rectangular thumbnail and not an actual image.

**Page View** displays a close-up of a single page and you can open a PaperPort® item by double-clicking on it. As long as you have the appropriate application on your computer to display it, you can also double-click a non-PaperPort® item to open it.




**Destop View displays items as thumbnails**




**Page View displays each item as a full page**

## Organizing Your Items in Folders

PaperPort® has an easy-to-use filing system for organizing your items. The filing system consists of folders and items that you select to view in Desktop View. An item can be a PaperPort® item or a non-PaperPort® item:

- Folders are arranged in a “tree” structure in the Folder View. You use this pane to select folders and view their items in Desktop View.
- You can simply drag and drop an item onto a folder. When the folder is highlighted, release the mouse button and the item is stored in that folder.
- Folders can be “nested”—that is, stored in other folders.
- When you double-click a folder, its items (both PaperPort® MAX files and other files) appear on the Desktop.
- You can also use Windows® Explorer to manage the folders and items shown in Desktop View.

## Links to Many Other Applications

PaperPort® automatically recognizes many other applications on your computer and creates a “working link” to them. The Link Bar at the bottom of Desktop view shows icons of those linked applications. To use a link, drag an item onto one of the icons to start the application represented by the icon. A typical use of the Link Bar is to select an item and then fax it.

This sample Link Bar shows several applications with links to PaperPort®.

If PaperPort® does not automatically recognize one of the applications on your computer, you can manually create a link using the **Create New Link** command. (See *PaperPort® Help* for more information about creating new links.)

## Using ScanSoft™ TextBridge® OCR (Converting Image Text to Text You Can Edit)

Software by: ScanSoft™

TextBridge® OCR is automatically installed when you install PaperPort® on your computer.

PaperPort® can quickly convert the text on a PaperPort® item (which is really just a picture of the text) into text that you can edit with a word processing application. PaperPort® uses the optical character recognition application TextBridge®, which comes with PaperPort®—**OR**—PaperPort® uses your application if it is already on your computer. You can convert the entire item, or by using the **Copy As Text** command, you can select only a portion of the text to convert.

Dragging an item onto a word-processing link icon starts PaperPort®’s built-in OCR application, or you can use your own OCR application.

## Importing Items from Other Applications

In addition to scanning items, you can bring items into PaperPort® in a variety of ways and convert them to PaperPort® (MAX) files in several different ways:

- Print to the Desktop View from another application, such as Microsoft Excel.
- Import files saved in other file formats, such as Windows® Bitmap (BMP) or Tag Image File Format (TIFF).

## Exporting Items in Other Formats

You can export or save PaperPort® items in several popular file formats, such as BMP, JPEG, TIFF, or self-viewing. For example, to create a file for an Internet Web site, export it as a JPEG file. Web pages often use JPEG files for displaying images.

# *Scanning a Document*

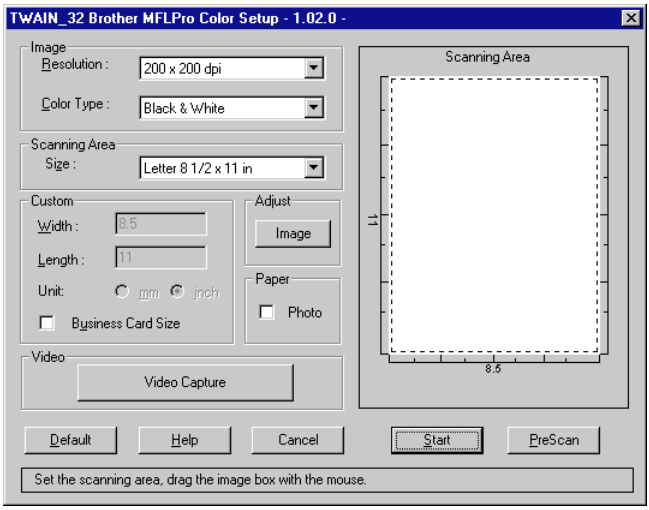
### TWAIN COMPLIANT

The Brother Multi-Function Link® Pro software includes a TWAIN compliant scanner driver. TWAIN drivers meet the standard universal protocol for communicating between scanners and software applications. This means that not only can you scan images directly into the PaperPort® viewer that Brother included with your MFC, but you can also scan images directly into hundreds of other software applications that support TWAIN scanning. These applications include popular programs like Adobe Photoshop, Adobe PageMaker, CorelDraw and many more.

To choose Brother Multi-Function Link® Pro as your scanner driver, select it under the Select scanner—**or**—Select source option in your software.

## Accessing the Scanner

From the PaperPort® window, select the **Scan** or **Twain** button or from the File drop-down menu choose Acquire. Multi-Function Link® Pro's Twain dialog box will appear:




## Scanning a Document into the PC

1. Place the document in the feeder, or on the scanner glass.
2. Adjust the following settings, if needed, in the Scanner window:
   - Resolution
   - Color Type (Black & White, Gray [Error Diffusion], True Gray, 256 Color, 24 bit color or 24 bit color [Fast])
   - Size
3. Select the **Start** button from the scanner window.

   When scanning is completed, press Cancel to return to the PaperPort® window.

## Settings in the Scanner Window

### Resolution:

Resolution: Select the scanning resolution from the Resolution drop down list. Higher resolutions take more memory and transfer time, but can achieve a finer scanned image. You can choose:

- 100 x 100 dpi
- 150 x 150 dpi
- 200 x 100 dpi (Black & White, Gray [Error Diffusion] only)
- 200 x 200 dpi
- 200 x 400 dpi (Black & White, Gray [Error Diffusion] only)
- 300 x 300 dpi
- 400 x 400 dpi
- 600 x 600 dpi
- 1200 x 1200 dpi (Black & white, Gray [Error Diffusion]. True Gray, 24 bit color and 24 bit color [Fast] only)

### Color Type:

Black & White: Set the Color Type to Black & White for text or line art.

Gray Scale: For photographic images, set the Color Type to Gray (Error Diffusion) or True Gray.

Gray (Error Diffusion) is used for documents that contain photographic images or graphics.

True gray mode is used for documents that contain photographic images or graphics. This mode requires the most memory and the longest transfer time.

Colors: Choose either 256 Color, which scans up to 256 colors, 24 bit color 24 bit color [Fast], which scans up to 16.8 million colors. Although using 24 bit color or 24 bit color [Fast] creates an image with the most accurate colors, the image file will be approximately nine times larger than a file created with 256 Color. You have a choice of faster scanning with 24 bit color [Fast] or using the Brother Color Matching Technology with 24 bit color.

### Size:

Set the Size to one of the following:

- Letter (8 1/2 x 11 in.)
- A4 (210 x 297 mm.)
- Legal (8 1/2 x 14 in.)
- A5 (148 x 210 mm.)
- B5 (182 x 257 mm.)
- Executive (7 1/4 x 10 1/2 in.)
- Business Card (60 x 90 mm.)
- Custom (User adjustable from 0.35 x 0.35 in. to 8.5 x 14 in.)

*After* you select a custom size, you can adjust the scanning area further by using the left mouse button to drag the dotted outline of the scanning area. This is required when you want to crop an image when scanning.

To scan business cards, select the Business Card (60 x 90 mm.) size setting and place the business card at the top center of a carrier sheet.

Carrier sheets are available from your Dealer.

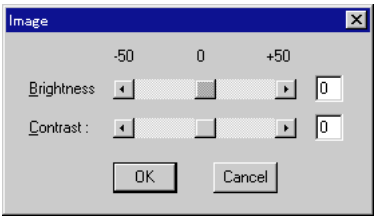
When scanning photographs or other images for use in a word processor or other graphics application, you should try different settings for the contrast, mode and resolution to see which settings best suit your needs.

### Custom:

This section displays the size you selected. To adjust the scanning area size to business card size automatically, check the Business Card Size box.

### Adjust:

In the Adjust section, click the **Image** button. The Image screen will appear:




Use the cursor to drag the indicator buttons to the left or right to adjust the Brightness and the Contrast, as needed.

### Paper:

Check the Photo box if the image is a photograph.

### Video Capture:

The Video Capture button displays the video frame grabber window. (See *Video Capture from the PC,* page 16-9 for details.)

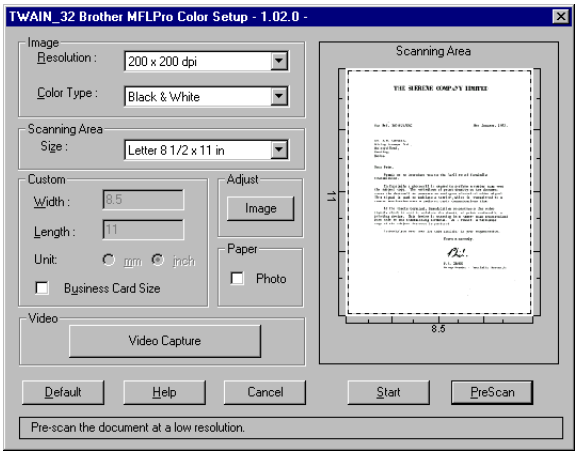
## PreScanning an Image

PreScanning allows you to scan an image quickly at a low resolution. A thumbnail version of the image will appear in the Scanning Area. This is only a preview of the image so you can see how it will look. The PreScan button is used to preview an image for cropping any unwanted portions from the image. When you are satisfied with the preview, select the **Start** button from the scanner window to scan the image.

### How to use PreScan to adjust an Image:

1. Insert the document face down in the document feeder of your MFC.
2. Select the **PreScan** button.

   The entire document will be scanned into the PC and will appear in the Scanning Area of the Scanner window.




3. To crop a portion of the document to be scanned, drag any side or corner of the dotted outline in the Scanning Area with the left mouse button. Adjust the dotted outline until it surrounds only the portion of the document you wish to scan.
4. Place the document in the document feeder of the MFC again.
5. Adjust the settings for Resolution, Color Type (Gray Scale) and Size in the Scanner window, as needed.
6. Select the **Start** button.

   This time only the selected area of the document will appear in the PaperPort® window.
7. In the PaperPort® window, use the options available to refine the image. (See PaperPort® for Brother online documentation for details.)

# Video Capture from the PC

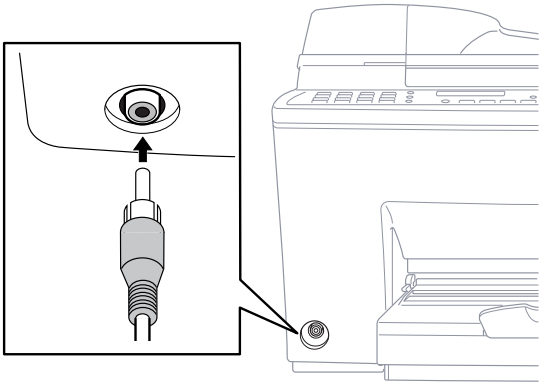
Video Capture is the process of isolating a single frame (or picture) from media played on video equipment (such as a video camera or VCR) and then converting that frame into an image file on your PC. Once the frame is an image file, it can be saved, printed, faxed, and inserted into other files.

## Connecting Your Video Equipment

Before you can begin to capture a video frame, you must first connect your video equipment to the MFC.

### To connect your video equipment:

1. Connect your video cable into the jack on your video equipment labeled **VIDEO OUT**.
2. Connect the RCA male plug on the other end of the video cable into the RCA female jack on the front of the MFC.



## Capturing An Image

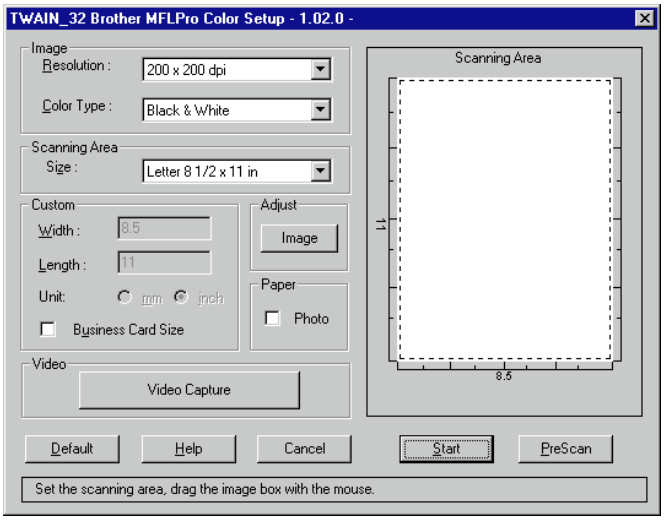
You can access Multi-Function Link® Pro's Twain dialog box from the PaperPort® for Brother viewer or from any application that is compatible with Twain scanning devices.

### To capture a frame as an image:

1. Connect your video equipment to the MFC.
2. From PaperPort®, select **Acquire** from the **File** menu, or click on the Scan (Twain)

icon.

   Multi-Function Link Pro's Twain dialog box will appear:




3. In the Multi-Function Link Pro Setup (Twain) dialog box, click the **Video Capture** button.

The Video Capture dialog box will appear.

**5** Select the **Source** of the video:

- Live Camera
- Tape/VCR
- Laser Disc®
- Digital Camera

**6** Select the **Type** of video:

- Auto-is the most common choice, since the system will determine the Type for you.
- Moving
- Still
- High Quality
- Pro Quality-is the highest quality.

**7** Select the **Preview** type:

- B & W-Black and White displays approximately four frames per second.
- Color-displays approximately one frame every two seconds because color images contain much more data.

**8** Select the **Size** (dots per inch) of the image file to be created:

- 1280 x 960-is the best quality. The image file will be large and take more space on your PC.
- 750 x 562
- 640 x 480-is suitable for most images.
- 320 x 240

9 Turn on your video equipment and start running the video.

10 When you see the frame you want to capture, click the **Pause** button. The frame will be displayed in the viewer screen section of Multi-Function Link® Pro's Twain dialog box.

11 If you wish to capture the displayed frame, click the **OK** button, **–OR–**

If you are not satisfied with the frame that is displayed, resume running the video by clicking the **Pause** button a second time.

The video will resume running.

12 Click the **Quit** button to exit the Video Capture dialog box.

13 Run PaperPort®, where a thumbnail image of your frame will be displayed. (See PaperPort® Online Documentation for details).

# 17 Using Internet Faxing with NetCentric™ FaxStorm

## NetCentric™ Internet Fax

Internet faxing **(NetCentric FaxStorm)** brings together the power of the PC and the economy of the Internet. Outgoing faxes are relayed from your desktop to a network provider's fax server over an IP connection. From the server, the fax job is transmitted across the Internet using sophisticated least-cost-routing algorithms, then delivered to a fax machine using local phone lines, or to another computer as an e-mail attachment. Faxes can be sent to a single recipient or to multiple recipients. NetCentric™ FaxStorm tracks your faxes to their destinations, and informs you of their status. When servers are down due to Internet outages, NetCentric™ FaxStorm re-routes your fax jobs and requests for account status.

You can access incoming faxes from any web-connected desktop and even forward them to others directly from the Inbox account.

For more information about how to use NetCentric™ FaxStorm, see the **online HELP** files after you install NetCentric™ FaxStorm on your computer. Use the *Help* pull down menu to access HELP.

## Before You Begin

### Compatible Operating Systems

NetCentric™ FaxStorm can be used with Windows® 3.1*x*, 95/98 and Windows NT® Workstation Version 4.0 operating systems to integrate with your Internet fax account.

### Set Up Your Fax Service Account

Before you can install NetCentric™ FaxStorm, you must use your established Internet Service Provider to go to **http://www.faxstorm.com** and set up an account with one of the Fax Service Providers. You will be given an Account Name and Password, which you will need to install NetCentric™ FaxStorm from the Brother CD-ROM.

A fax account is available to any person or company who has Internet access. *There is no charge for creating an account. You are charged only for use of services.*

A user account grants you access to many account features accessible from a web browser. You will have your own personal accounting and management web pages located on your local POPware server. These web pages will help you manage your account, view your account balance, pay invoices, check on the status of your faxes, and send faxes directly from a web form.

## Receiving Faxes

The Fax Inbox receives faxes at your account on the POPserver. You can view faxes you receive. In order to use the Fax Inbox, you must establish an Inbound account on your primary POPserver.

If your fax account is a subaccount of a corporate account, you cannot change the services available to your account. Contact the administrator of your corporate account for information about changing account services.

The Inbox Detail window provides additional information on each fax job that is sent to your Inbox. To display the Inbox Detail window, double click on a fax job in the Inbox window.

*The Inbox Detail window displays:*

***FaxID***—Identification string set on the transmitting fax machine.

***Quality***—Image quality of the fax file.

***Dialed#***—The phone number that the sender dialed. This should be your inbound fax number.

***File Size***—Number of bytes in the fax file.

***Received Time***—Time at which the fax was received on the server.

***Transmit Rate***—Transmission speed used to transmit the file to the server.

***From***—Person or organization that sent the fax.

***JobID***—Number that uniquely identifies the fax job. The JobID is comprised of the identification number of the server to which the fax was sent and a unique number that identifies the fax itself.

***Pages***—Number of pages in the fax.

***Status***—Final status of the fax job. Either DONE or FAILED.

### Creating an Inbound Account

1. Log on to your account home page using a web browser or select *Web* from the *Utilities* menu, then select *Account Home Page*.
2. Click the **Options** button on the left-hand side of your account home page.
3. Click the **Inbox** icon. The Inbox frame appears within the browser.
4. Choose two (2) items, one from each drop-down list:
   - The server where you want to receive inbound faxes on the Internet Service Provider you use
   - The notification method you want (Notify by Email, Forward by Email, or No Notification or Delivery)

You will be provided with the telephone number of your fax Inbox. Give this number to people sending faxes to your fax Inbox.

## Installing NetCentric™ FaxStorm

Before you begin, you must be connected to the Internet with your Browser running and be connected to your existing web-based NetCentric™ account.

1. Login to your web-based NetCentric™ account.
2. Insert the Brother CD-ROM into your computer CD-ROM drive.
3. Click on the NetCentric™ FaxStorm button to install the software and follow the prompts on the screen.

If you are using a Proxy server, you must enter the server name and address on the second page of the Account Setup Wizard. See your Account Administrator for this information.

## Overview of Utilities

NetCentric™ FaxStorm includes the following related utilities to help you manage your faxing activities:

### Contact Manager

Use Contact Manager to organize your contacts and import database files of existing address books.

### Cover Page Builder

Cover Page Builder is your creative tool to build a personal cover page. You can arrange fax merge fields to organize your own cover pages.

You can build a cover page by using a fax file for a backdrop that you have created with the Print Driver. Using the Print Driver, you can convert a document created in any Windows® application into a fax file.

### Print Driver

Use Print Driver to fax from any Windows® application through your fax account.

The Print Driver also enables you to convert files to image files for use as attachments and send them as faxes from NetCentric™ FaxStorm. Once you convert and save a file as an attachment, it is always listed as an attachment in your Attachment List.

### Status Manager

Use Status Manager to work with your fax account and manage your incoming and outgoing faxes.

### Viewfax (A Fax File Viewing Application)

Use ViewFax to view your completed fax at any time, before, or after, you send it from NetCentric™ FaxStorm. You can also view fax files received through your fax account, and view other image files on your system. You can run ViewFax from Status Manager or as a separate application.

When you run ViewFax as a separate application, you can open any image file on your hard drive and save it on your hard drive as an attachment, TIFF image, or cover page.

## Accessing NetCentric™ FaxStorm

Select the NetCentric program group, then select FaxStorm. The NetCentric FaxStorm window appears.

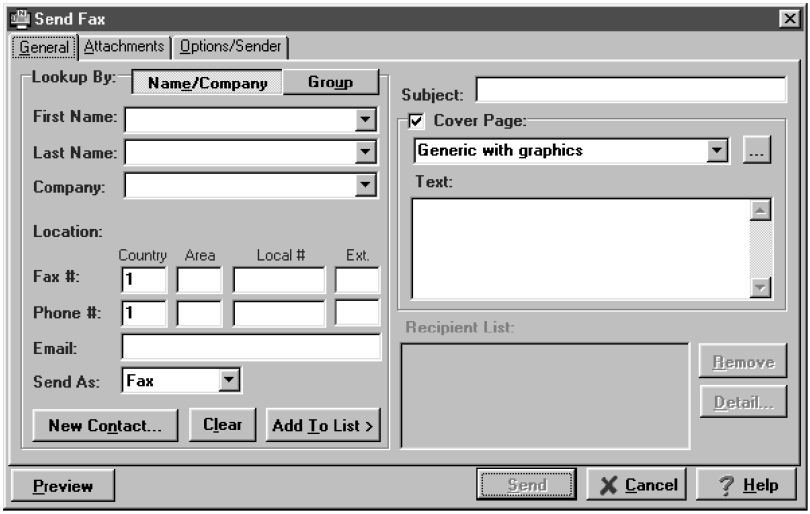
## Sending Faxes

You can send a fax directly from the NetCentric™ FaxStorm, or use the Print Driver to send a fax from any Windows® application or as e-mail.

The Send Fax dialog box has three tabs: *General* tab, *Attachments* tab and *Options/Sender* tab.

To access the Send Fax Window, in the NetCentric™ FaxStorm window, select *Send Fax* from the *Fax* menu—**OR**—Click the **Send Fax** button.

The Send Fax window appears:




### General Tab

In the *General* tab you can address a fax to one or more recipients, choose a cover page, and determine the method for sending the fax. The only information required to address a fax is the destination fax number. However, to send a fax, you must send either a cover page or an attachment to the fax.

### Addressing a Fax

To address a fax, complete the contact information on the left side of the screen. If you make a mistake, you can delete all the contact information by pressing the **Clear** button.

To address the fax, enter recipient information in the address fields
—**OR**—Select a recipient from your contact database
—**OR**—Click the Group button to broadcast to multiple recipients.

### Adding Contacts One at a Time

- Enter the recipient's information in the First Name, Last Name, or Company Name fields. The Contact Manager searches for the contact and fills in the rest of the recipient's information—**OR**—
- If the recipient is not in its database, enter the information.
- If you do not want to save this recipient in your contact database, click the **Add to List >** button. The recipient's name appears in the Recipient List box. (To delete a recipient from the list, click the **Remove** button.)

  You can broadcast a fax to multiple recipients by adding them to the Recipient List. You can add multiple recipients to your recipient list in one of two ways:

- Add each recipient manually (by name or company)
- Add groups from your Contact Manager database

### Selecting a Group (or a Contact from a Group)

1. Click the **Group** button to display groups and contacts within the Groups.
2. Click a group name to select it.
3. Click the **Add Group** button to add that group to the Recipient List

—**OR**—To add a single contact within the group, click the contact name, then click the **Add Contact** button.

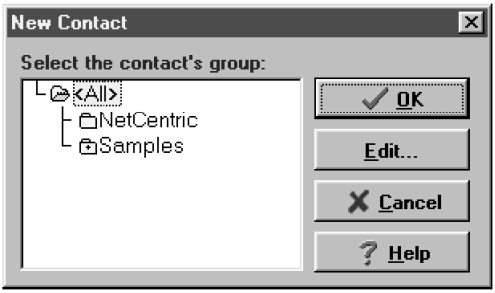
4. To view the details about a recipient, select the recipient from the Recipient List. Then click the **Detail** button.
5. Use the *Send As* drop down list to choose how faxes are sent to a group or to a contact.
   - Selecting Fax sends the selected file to the fax number shown in the Fax # field. For convenience, you can use the country code lookup.
   - Selecting E-mail sends the file to the e-mail address shown in the E-mail field.

### Saving a New Contact from the Fax Send Window

After entering the recipient information for the fax, you can add the entry to your Contact Manager database:

1. Click on the **New Contact** button.

   The New Contact window appears:




2. In the New Contact window, click the group in which you wish to place the contact.
3. To add more information about the new contact, click the **Edit** button to go to the *Contact Detail* window—**OR**—To save the new contact without opening the Contact Detail window, click the **OK** button in the *New Contact* window.

### Specifying a Cover Page

1. Click the Cover Page check box to select the default cover page—**OR**—Change your cover page by clicking on the ... button to open the *Cover Page* window.
2. Click the browse button in the Send Fax window.
3. Select the name of the cover page in the cover page window.
4. Select the default checkbox.
5. Click **OK** to close the window.

## About Sending a Fax as E-mail

You can send fax files and attachments to a recipient's e-mail address rather than to a fax number. When fax files are sent by e-mail, they arrive as TIFF file attachments to the e-mail message. The recipient can then view the TIFF files with an e-mail utility or an external image viewing application. The e-mail message to which the TIFF files are attached includes a URL to a web page that instructs the recipient how to configure the e-mail application to view the TIFF file attachments.

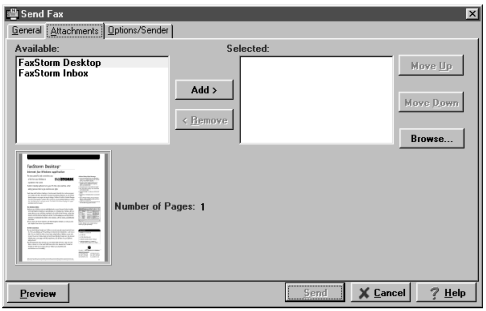
Most of the steps for sending fax files to an e-mail address are the same as for sending fax files to a fax number. The main difference is that you choose E-mail from the *Send As* options. You must specify a valid e-mail address for the recipient. Fax files that you have sent to an e-mail address appear in Status Manager as job type E-mail.

If you are sending a fax to more than one recipient, choose E-mail from the Send As options. The application sends the selected files to the e-mail address of each person in the recipient list. If you have not provided an e-mail address for a recipient, the fax job to that recipient is not sent.

## Attachments Tab

Use the *Attachments* tab to attach documents to your fax from your hard drive or from your Attachments list. Attachments must be image files, which you create from any Windows® application with the Print Driver. Attachments can be files with the following extensions: TIFF, ASCII, BMP, JPEG, GIF, PCX, ICON, PDF and PSD.

1. Select the *Attachments* tab from the Send Fax window.
2. The Attachments window appears, and displays the files that are available:

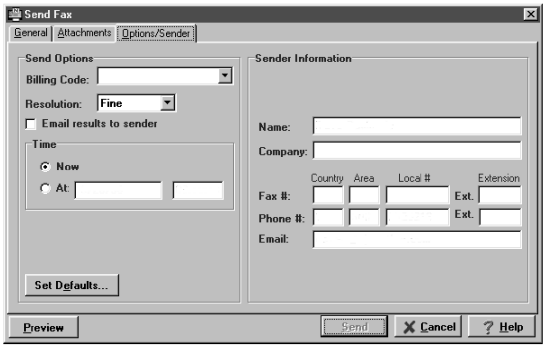



3. To place an Attachment in the selected window, click the name the Attachment, then click the **Add** button—**OR**—To select an attachment from your hard drive that is not in your Attachment List, click **Browse** to locate the file.

   Attachments added in the Send Fax window are for this fax only.

### Options/Sender Tab

Use the *Options/Sender* tab to specify the billing code, resolution, request e-mail notification, when to send the fax and a change to the sender information.




To set the defaults of *all* your faxes, click the **Set Defaults** button in the lower left-hand corner. Options modified in the Send Fax window apply to this fax only and appear on the cover sheet of your fax.

## Sending from Other Windows® Applications

When you install the Print Driver (included with NetCentric™ FaxStorm) onto your computer, it will be available in your list of printers to use for faxing from any Windows® application.

### If You Are Using Windows® 95/98

1. Open the document you wish to fax.
2. Select *Print* from the *File* menu.
3. Select **NetCentric™ FaxStorm** from the list of printers.
4. Click Properties (or click the button that displays the properties of the printer in the application you are using).
5. Select *Print to Fax* and click **OK** to close the *Properties* dialog box.

   The Print Driver saves these properties until you change them again.

If you are printing to a file rather than faxing, open the *Properties* dialog box to select *Print2File*.

6. Click **OK** to print the document.

   The Send Fax dialog box appears.

7. Enter the recipient's fax number, select a cover page plus any options.

### If You Are Using Windows NT® Workstation Version 4.0

1. In your Windows® application, open the document you wish to convert.
2. Select *Print* from the *File* menu.
3. In the Print dialog window, select **NetCentric™ FaxStorm** from your list of printers.
4. Click Properties (or click the button that displays the properties of the printer in the application you are using).
5. Select the *Document* tab and click the Print2File radio button.
6. Select the *File Options* tab and click the *Manual, prompt each time for file name* radio button.
7. Click the Programs tab and click the Run program after creating image file radio button.

   The Program Exec text box should contain the path to the quickfax executable. If the text box is empty, enter the path to the quickfax executable. It is located in the bin directory beneath the directory in which you installed the application.
8. Click **OK** to close the Properties dialog box.
9. Click **OK** on the Print dialog box.

   The file is now converted to a FAX file and the Send Fax application is launched, allowing you to fax the document.

## Setting Up Contacts in the Contact Manager

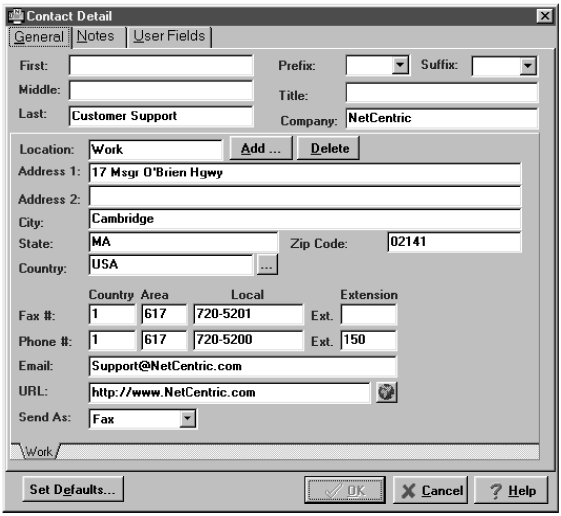
In addition to saving recipient information when you address a fax in the Send Fax window, you can add contacts manually in the Contact Manager window. When adding a contact, you are creating an entry in an existing group in your Contact Manager database. You can add the contact to a subgroup that you have already created. However, if you do not select a group, then your contact is added to the top-level group *All*. After you add a contact, you can add or move it to different groups.

You can create more than one address for each person, and Contact Manager treats each address as a separate entry in its database, even allowing you to place them in separate recipient groups. Each address can be viewed and edited in the Contact Detail Window.

You can add, arrange, and delete contacts and groups of contacts. To view the contacts within each group, select the folder of that group. You can navigate through a group using alphabetic tabs. To view details of a contact, double-click on the name of the contact.

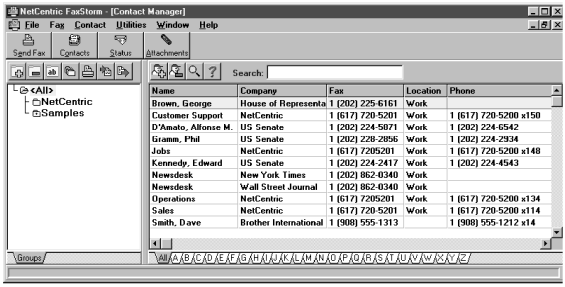
### To Add a New Contact to the All Group:

**1** In the NetCentric FaxStorm window, Select *New Contact* from the *Contact* menu. The Contact Detail window appears:




**2** Enter additional information about the contact in the *Contact Detail* window.

**3** Click the **OK** button to save the new contact. The *Contact Manager* window appears listing the new contact in the *All* group:




You can move the new contact to another group by selecting it and dragging it into that folder.

**4** Close the *Contact Manager* window, to return to the *NetCentric FaxStorm* window.

### To Add a New Contact to Another Group:

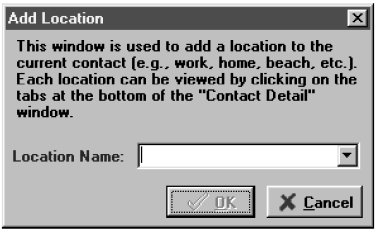
1. In the NetCentric FaxStorm window, click on the **Contacts** button —**OR**—Select *Contact Manager* from the Contact menu. The Contact Manager window appears.
2. Click the folder where you want to place the new contact and click the **New Contact** button. The Contact Detail window appears.
3. Enter the information about the contact in the *Contact Detail* window.
4. Click the **OK** button to save the new contact. The *Contact Manager* window appears listing the new contact in the group you selected.
5. Close the *Contact Manager* window to return to the NetCentric FaxStorm window.

### Changing Contact Detail

Each contact has one Contact Detail window for all addresses, or locations, of that particular contact, even if the locations appear in different groups within the Contact Manager.

To edit the information of an existing contact, open the Contact Detail window for that contact:

1. In the Contact Manager window, double-click on the contact—**OR**—Select the contact in the Contact Manager window and select *Edit/View* from the Contact menu, or click the **Edit/View** button.
2. When the Contact Detail window appears, enter the additional information and changes, as needed. If you are ready to accept your changes, skip to Step 5.
3. To add another location for this contact, select the Add... button. The Add Location window will appear:


Add Location
This window is used to add a location to the current contact (e.g., work, home, beach, etc.). Each location can be viewed by clicking on the tabs at the bottom of the "Contact Detail" window.
Location Name:
OK
Cancel

4. Enter the name of the new location and click the **OK** button. The Contact Detail window reappears and you will be prompted to enter the new location information.
5. When you are ready to accept the information in the Contact Detail window, click the **OK** button to save your changes.
6. When the Contact Manager window re-appears, close it.

### Setting Up Multiple Addresses

The *Contact Detail* window has three tabs: *General*, *Notes* and *User Fields*.

The *General* tab of the *Contact Detail* window has a separate sub-tab for each address or location. On the General tab you can modify the contact information, add and delete addresses, launch a web browser to view that contact's URL, specify the contact's default medium for file delivery (either fax or e-mail) and go to the Country Lookup utility to look up country codes. See the online *Help* for more information.

On the *Notes* tab, you can enter personal notes to the contact's record.

On the *User Fields* tab, you can define user fields for adding additional information about the contact.

### Moving or Copying a Contact to Another Group

In the *Contact Manager* window, you can move a contact from one group to another, or copy a contact from one group into another group.

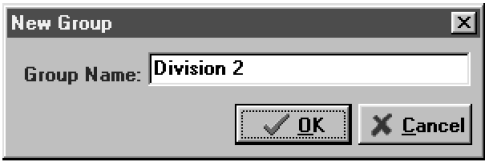
- To **move** a contact from one group to another, select a contact and drag it into the destination group. A dialog box asks you to confirm the move.
- To **copy** a contact from one group to another, press the Control key, select a contact, and drag it into the destination group. A dialog box asks you to confirm the copy.

### Creating a Group for Broadcasting

You can create groups in the Contact Manager so you can quickly address a fax to all the recipients in that group. If you create a new group without initially opening the Contact Manager window, then the top-level group *All* is selected by default.

To set up a group to broadcast to multiple recipients:

1. In the *Contact Manager* window, select the group folder under which you wish to assign the new group.
2. Select *New Group* from the *Contact* menu—**OR**—Click on the **New Group** button in the Contact Manager window. The New Group window appears:




3. Enter a name (up to 25 characters) for the new group.
4. Click the **OK** button.

## Managing Your Faxes in the Status Manager

The Status Manager connects to your account, retrieves your sent and received faxes and displays their status. You can open the Status Manager to check your faxes, or you can set the Status Manager's options so that Status Manager checks the status at an interval you choose.

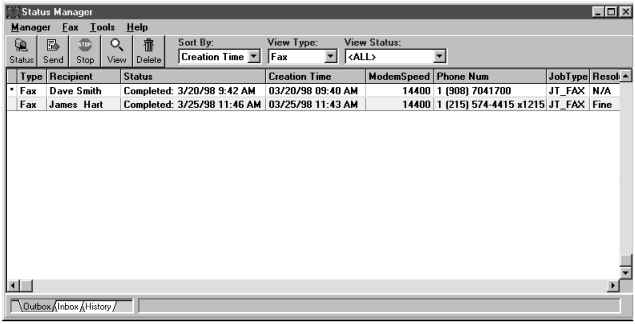
The Outbox lists the faxes you have sent from your faxing account. Each fax is identified by the type (fax or broadcast), recipient name, subject, status, recipient phone number and fax number, creation time, and the type of the data transmission and speed of transmission. Faxes that were not sent from NetCentric™ FaxStorm are shown with an asterisk in the first column. Fax status might be stopped, completed, processing, queued, failed, scheduled, or sending to server.

You can delete, move, sort and manipulate the records of your faxes in Status Manager after they have been sent. You can move a fax to the History tab by clicking the Delete button and selecting that option.

### Accessing the Status Manager

- Click the **Status** button—**OR**—select *Status* from the *Fax* menu—**OR**—Select Status Manager from the Utilities menu.

You will be prompted to enter your account name and password. The Status Manager window appears:


Status Manager
Manager Fax Tools Help
Status Send Stop View Delete
Sort By: Creation Time
View Type: Fax
View Status: <ALL>
Type Recipient Status Creation Time ModemSpeed Phone Num JobType Resol
* Fax Dave Smith Completed: 3/20/98 9:42 AM 03/20/98 09:40 AM 14400 1 (908) 7041700 JT_FAX N/A
Fax James Hart Completed: 3/25/98 11:46 AM 03/25/98 11:43 AM 14400 1 (215) 574-4415 x1215 JT_FAX Fine
Outbox Inbox History

### Checking the Status of Sent Faxes (Outbox)

1. Click the **Outbox** tab at the bottom left-hand side of the Status Manager window.
2. Double-click the fax to view the *Inbox Detail* window for status information.
3. Click on a fax to select it, and click the **View** button to view the file. To delete a fax, click the **Delete** button.

### Viewing Faxes You Received (Inbox)

1. Click the **Inbox** tab at the bottom left-hand side of the Status Manager window. FaxStorm downloads all faxes that have been sent to your Inbox.
2. Click on a fax to select it, and click the **View** button to view the file.
3. Double-click the fax to view the *Inbox Detail* window for status information. To delete a fax, click the **Delete** button.

## Managing Faxes from Your Account Page

Your Fax Service Provider Account is a directory on the POPserver to which you were assigned when you created your account.

### Accessing Your Account Page

You can access your account through a web browser home page using a URL similar to *http://www.server.net/~accountID/* where *www.server.net* is your primary POPserver, and *accountID/* is your account name or account ID

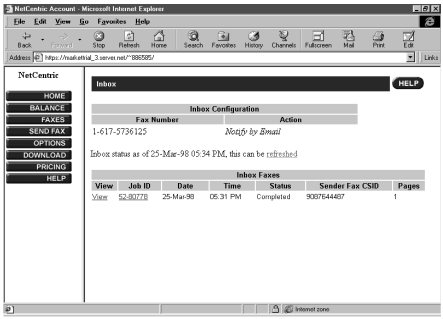
**—OR—**

You can access your account directly from NetCentric™ FaxStorm by selecting *Account Home Page* from the *Utilities* menu. Each time you connect to your account home page, you must enter the account name and password.

### Viewing Received Faxes in Your Account Page Inbox

Faxes that are sent to your fax Inbox can be viewed from your account home page, as well as from NetCentric™ FaxStorm. *See online HELP if you need more information*.

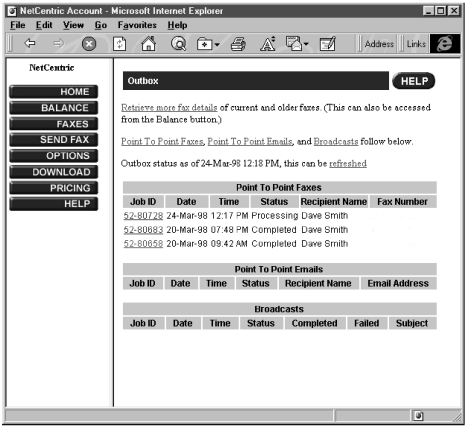
1. Log on to your account home page using a web browser, or select *Web* from the *Utilities* menu, then select *Account Home Page*.
2. Click the **Faxes** link on the left side of your account home page. The Faxes frame appears within the browser.
3. Click the **Inbox** hypertext link. Your Account Page Inbox will be displayed, listing your received faxes.



### Checking Sent Faxes in Your Account Page Outbox

You can check the faxes you sent from your account home page, as well as from NetCentric™ FaxStorm.

1. Log on to your account home page using a web browser, or select *Web* from the *Utilities* menu, then select *Account Home Page*.
2. Click the **Faxes** link on the left side of your account home page. The Faxes frame appears within the browser.
3. Click the **Outbox** hypertext link. Your Account Page Outbox will be displayed, listing you sent faxes:


NetCentric Account - Microsoft Internet Explorer
File Edit View Go Favorites Help
Address Links
NetCentric
HOME
BALANCE
FAXES
SEND FAX
OPTIONS
DOWNLOAD
PRICING
HELP
Outbox
HELP
Retrieve more fax details of current and older faxes. (This can also be accessed from the Balance button.)
Point To Point Faxes, Point To Point Emails, and Broadcasts follow below.
Outbox status as of 24-Mar-98 12:18 PM, this can be refreshed
Point To Point Faxes
Job ID Date Time Status Recipient Name Fax Number
52-80728 24-Mar-98 12:17 PM Processing Dave Smith
52-80683 20-Mar-98 07:48 PM Completed Dave Smith
52-80658 20-Mar-98 09:42 AM Completed Dave Smith
Point To Point Emails
Job ID Date Time Status Recipient Name Email Address
Broadcasts
Job ID Date Time Status Completed Failed Subject

## Customer Support

You can select *Web Problem Reports* from the *Utilities* menu of the NetCentric™ FaxStorm window. Your web browser will open the problem report page of NetCentric Corporation. Use this to send your problem directly to Customer Support at NetCentric Corporation, or

### Contact NetCentric™ Corporation at

28 Crosby Drive
Bedford, MA, USA 01730

| | |
|---|---|
| 1 (781) 685-5200 (voice) | 9 a.m. to 6 p.m., EST, Monday through Friday |
| 1 (781) 685-5600 (fax) | |
| E-mail: support@netcentric.com | 24 hours a day 7 days a week |

# 18 Using Automatic E-Mail Printing

## Automatic E-Mail Printing (For Windows® 95/98 Only)

The Brother Automatic E-Mail Printing software is a utility program that reads your E-mail messages from a specified POP3 server and automatically prints to a printer.

**Please read this section before using the software.**

> Check the online README.WRI file in the root directory of the CD-ROM for last-minute important information and troubleshooting tips that were not included in the On-Line Documentation.

### Main Features

- You can use Automatic E-Mail Printing with other E-mail software:
  Brother Automatic E-Mail Printing has some extra functions that other E-mail software, such as Netscape Navigator™ or MS Internet Mail, do not support.
- Automatic E-Mail Printing can be configured for a multiple user account:
  In Brother Automatic E-Mail Printing you can set more than one e-mail account on a single PC so you can print e-mail in each account automatically.
- Automatic access to your specifed POP3 server at the specifed time:
  You can specify the time when the Brother Automatic E-Mail Printing accesses the server to check for new mail.
- Provides an “In Memory” printer driver:
  You can receive and print e-mail data at the same time, by searching for a specified character string in the mail header. It allows you to see the sender, subject and relevant part of the mail content.

## Automatic E-Mail Printing is for Windows® 95/98 Only

Automatic E-Mail Printing is a 32-bit software application. It cannot run on Windows® 3.1*x*, even if Win32 is installed on your computer.

### You Cannot Use a 16-bit TCP/IP Stack

To run Automatic E-Mail Printing, you MUST have a 32-bit TCP/IP stack. Windows® 95/98 provides built-in 32-bit TCP/IP stacks that you can set up.

### If You Are Using Korean Windows® 95/98

If you are using Korean Windows® 95/98, you must choose *English* in the Language menu of the installer.

## Setting Up Automatic E-Mail Printing

To access the Properties of Brother window and set up your options:

1. From the Automatic E-Mail Printing window, select *Properties* from the *Mail* pull down menu.

   The User Settings window will appear.

# 19 Color Faxing with FaxSpeed

(For Windows® 3.1*x* and 95/98 Only)

## Introduction

FaxSpeed is a Windows® color PC fax software application that allows you to convert color image files so you can fax them to the receiving party's PC. (See *Creating FaxSpeed Read Module Disks for Recipients*, page 19-4.)

The receiving party must be able to receive faxes and must have the free FaxSpeed Reader program.

> This chapter is only an Introduction to FaxSpeed. After you install FaxSpeed on your computer, check the README.WRI file in the root directory of the CD-ROM for last-minute important information and troubleshooting tips that were not included in the On-Line Documentation. Use the Help pull down menu in FaxSpeed to access HELP, as needed, to learn the many features and functions available in FaxSpeed.

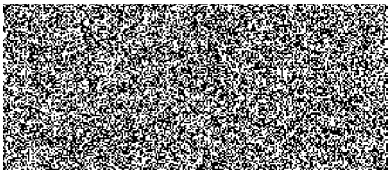
## How FaxSpeed Works

Because FaxSpeed is a binary file transfer application, you can send, receive and store documents (including scanned documents) containing confidential information on plain paper in a special coded format (InfoImage). Transmission is through Multi-Function Link® Pro software on your computer and reception can be either into your Multi-Function Link® Pro Log Manager on your computer or on paper on your Brother MFC. Receiving parties that do not have an MFC and Multi-Function Link® Pro software may receive InfoImages from you via their fax-modem or fax machine and scanner.

The maximum InfoImage file size that can be transmitted is 32K.

## Special Coded Format (InfoImage)

A FaxSpeed InfoImage is a graphic image representation of digital computer files, generated by a proprietary procedure. On paper, an InfoImage is composed of block(s) of very small black and white squares:



# *Installing FaxSpeed*

In the CD-ROM window, click the **Install FaxSpeed** button and follow the prompts on each screen.

If your Windows® Display System Settings (Windows® Setup) is set to a Large Font display, then there may be irregularities in the appearance of FaxSpeed screens. FaxSpeed cannot be used at all with Large Fonts and 640x480 display resolution.

1. Run Windows®, then insert the Brother CD-ROM into your CD-ROM drive.
2. When you insert the CD-ROM into the PC with Windows® 95/98, the screen appears automatically. (You can also run: ***X*:SETUP.EXE** from Explorer.) With Windows® 3.1*x* from the File menu, run ***X*:SETUP.EXE**.
3. Click on the FaxSpeed button to start the install program.
4. Type in your name or the name of your company. This name will be appended to each InfoImage to identify you as the sender.
5. Click the **Continue** button.

   The second installation window appears with the path displayed as c:\FaxSpeed.
6. Click the **Continue** button to accept it.

   The third installation window appears with FaxSpeed Standard as the name of the program group.
7. Click the **Create** button to accept it.

8 At the end of the installation, a success message should be displayed. Click the **OK** button to proceed.

After installation is finished, a new FaxSpeed program group containing the FaxSpeed icons will appear in Windows®:

**FaxSpeed Send:** Activates the FaxSpeed Send module.

**FaxSpeed Read:** Activates the FAX Read module.

**FaxSpeed Help:** Activates the FaxSpeed Online Help.

**FaxSpeed Macro Installer:** Enables you to install a FaxSpeed macro into your word processors.

**Create Read Module Install Disk:** Enables you to create an installation disk of the Read Module for free distribution to recipients of your InfoImages.

9 To start FaxSpeed, select the FaxSpeed icon of your choice.

Do not export or save files into any of the directories or subdirectories. Do not try to erase any FaxSpeed directory or hidden file.

## Selecting Multi-Function Link® Pro As Your Fax Application

After installation, the first time you start the FaxSpeed Send module, automatically you will be asked to specify the fax application to which FaxSpeed will send the InfoImages. The FaxSpeed Setup window will be displayed, listing all the fax applications, printers and other output devices found on your disk.

Select the **Brother MFL Pro Fax** driver and click the **OK** button.

An InfoImage is always in Portrait orientation.

## Creating FaxSpeed Read Module Disks for Recipients

You can create a disk of the Read module to give to recipients of your InfoImages, so they can convert and read them on their computer.

1. Select the Create Read Module Install Disk icon from the FaxSpeed program group.

   The FaxSpeed Copy Wizard window appears with the following message:

   *Copy Wizard will help you to create a free distribution of FaxSpeed Read Module.*

   *Please insert FaxSpeed Installation disk into drive a: or b: and press OK.*

2. Insert your Brother MFL Pro CD-ROM into your CD-ROM drive.

3. Click the **OK** button. The Copy Wizard will not be able to locate the correct files. Select the BROWSE button and select the **3dfxspd** directory of the CD-ROM. Select the **OK** button.

   The following message will be displayed:

   *Please insert clean, formatted disk in drive a: or b: and press OK.*

4. Insert a blank disk into your a: or b: drive.

5. Click the **OK** button.

   After the disk has been created, you can choose to create another disk at the following message:

   *FaxSpeed free distribution disk was successfully created.*

   *Do you want to create another one?*

6. Select the **YES** button to create another Read Module disk
   —OR—
   Select the **NO** button to exit.

# Quick Start Procedures

If you want to start sending and reading InfoImages immediately, these are the basic procedures.

## How to Send an InfoImage

You must be in the FaxSpeed application to select the file(s) you wish to send as an InfoImage.

### To Send an InfoImage with FaxSpeed Standard Send:

1. From the FaxSpeed program group, select the FaxSpeed Send icon.

   The FaxSpeed Send dialog box appears.

2. Select the drive and directory where the files you want to send are stored.

3. Highlight the file(s) to be converted to the InfoImage format.

The InfoImage file size can not exceed 32K. You can monitor the file size during this file selection process by checking the Total Size (KB) field in the InfoImage Contents section of this dialog box.

4. Select the **OK** button.

   The selected files will be displayed in the InfoImage Contents dialog box.

5. Select the **Send** button.

   The Sending InfoImage window appears.

   Then the Multi-Function Link® Pro Send Fax dialog box appears.

6. Enter the required information in the Send fax to field. You can select a fax number from your Multi-Function Link® Pro Phone Book. (See *Multi-Function Link® Pro On-line Documentation* on the Brother MFL Pro CD-ROM for details.)

7. Select the **Send** Fax button.

   The Document Conversion window appears.

   Through the speaker of your MFC, you will hear the fax number being dialed and the fax transmission being sent.

## Using the FaxSpeed Macro

### To send the current document in your word processor directly to FaxSpeed:

1. Open your word processor application, and open or create the required document.
2. Select the Run FaxSpeed option from the File menu.

   The current file will be generated into an InfoImage.

   Then the FaxSpeed Setup dialog box will appear.
3. Specify the required settings in this dialog box.
4. To change additional settings, select the Fax/Printer… button. The FaxSpeed Setup dialog box will appear. Select **Brother MFL Pro Fax** as the driver.
5. Select OK to send the InfoImage to Multi-Function Link® Pro.

## How to Read an InfoImage that Was Printed at Your MFC

If your system is set up to print received faxes at the MFC, the incoming InfoImage will be printed at the MFC. To read the printed InfoImage, you must first scan it into your computer so FaxSpeed can read the file.

### Follow these steps when a received InfoImage printed at the MFC:

1. After the InfoImage is received and printed by the MFC, place the printed InfoImage page(s) into the MFC's document feeder.
2. On your computer, open FaxSpeed Read module and select the **Twain-32 Brother MFL Pro Color** driver to scan the InfoImage into your computer. FaxSpeed will run the Multi-Function Link® Pro Scanner application automatically.
   - As each page is scanned, FaxSpeed shows you how many InfoImage blocks have been read and how many are still unread. FaxSpeed will not accept a page from a different InfoImage.
3. After all the pages of the InfoImage have been scanned, FaxSpeed automatically retrieves and decompresses the original files from the InfoImage and saves them in a Log file.
4. You can save each retrieved fax as a file.

Even though the list of files and their content can be viewed, the actual files represented by the InfoImage are not saved unless you have saved them to disk.

## How to Read an InfoImage that Was Received Into Multi-Function Link® Pro

When you receive a new fax into your PC, the MFL Pro Fax Main Menu will indicate a new fax was received. Click the Log Manager button to view the Inbox Log. Then select the new fax and click the View button. If you view the fax and see that it is an InfoImage, then follow the steps in *To read an InfoImage after viewing it in PaperPort®*.

### To read an InfoImage after viewing it in PaperPort® :

1. In PaperPort®, double-click the thumbnail on the desktop.
2. From the File menu, select Export...
3. In the Export Window, select the location, enter the file name, select BMP as the file type and click the **Save** button.
4. Run the FaxSpeed Read module. The FaxSpeed Read dialog box appears.
5. Click the **Select** button. The Select dialog box appears.
6. From the File Name list box, select the file name (that you exported from PaperPort®).
7. Select the **OK** button.
8. In the FaxSpeed Read dialog box, select the **Read** button. The InfoImage Reader will look at the .BMP fax file and try to find the InfoImage data. If it sees a cover page (that is not included in the InfoImage data), the InfoImage Read Problem window appears with the message:

   *Cannot read InfoImage page. File: fax?????.hfx  page skipped.*

   If you see this message, click the **OK** button to proceed.

   FaxSpeed will read each block in the InfoImage. You will see the name of the file(s) that were included in the InfoImage displayed in the InfoImage Contents list box.
9. To view or save the file(s), select the **View** or **Save** button.

Even though the list of files and their content can be viewed, the actual files represented by the InfoImage are <u>not</u> saved unless you have saved them to disk.

## If the Recipient Uses Another Fax Application

The recipient may use a PC modem and another fax application to receive faxes directly into a computer. As soon as the fax is an InfoImage on the computer, the recipient can go directly to FaxSpeed to read it.

### FaxSpeed Read Module for Recipients

To decompress and read your InfoImages, the recipient's computer must have the FaxSpeed Read Module Install Disk that you can create for them. (See *Creating FaxSpeed Read Module Disks for Recipients*, page 19-4.)

### For recipients of your InfoImage who are using another fax application:

The InfoImage is received into the recipient's computer through another fax application.

In the fax application, the recipient must save or export the InfoImage into a selected directory as a BMP, PCX, TIFF or DCX file:

- BMP, PCX and TIFF formats save each InfoImage page in a separate file.
- DCX format saves the entire InfoImage in a single file, even if it is more than one page.

Select the FaxSpeed Read icon to open the FaxSpeed Read window.

Select all the files that belong to a single InfoImage and activate the Read function to retrieve and decompress the files.

- FaxSpeed shows which blocks have been read and which blocks are still missing.
- The retrieved files are saved automatically in the Log file.

In the FaxSpeed Read window, a list of the retrieved files is displayed. You can view each file in its appropriate application.

In FaxSpeed, save the retrieved files.

Even though the list of files and their content can be viewed, the actual files represented by the InfoImage are not saved unless you have saved them to disk.

## If Recipient Uses Fax Machine and Scanner

Recipients who receive fax transmissions on paper at a fax machine must use a scanner to scan the image into their computer.

### FaxSpeed Read Module for Recipients

To decompress and read your InfoImages, the recipient's computer must have the FaxSpeed Read Module Install Disk that you can create for them. (See *Creating FaxSpeed Read Module Disks for Recipients*, page 19-4.)

### For recipients of your InfoImage who are using a fax machine and scanner:

1. The InfoImage is printed on the receiving party's fax machine.
2. Fax Machine / Scanner Requirements:
   - The retrieved files are saved automatically in the Log file.
   - **Medium density format** — If you sent the InfoImage in Medium density format, the recipient must scan the fax printout of the InfoImage into the computer using a 300x300 or 400x400 dpi scanner. For Twain-supported scanners, FaxSpeed automatically will open the scanner application of the recipient's choice. As the recipient scans each page, FaxSpeed shows how many InfoImage blocks have been read and how many are still unread. FaxSpeed will not accept a page from a different InfoImage.
   - **Low density format** — If you sent the InfoImage in Low density format, the recipient can scan the InfoImage into the computer using a 200x200 or 300x300 dpi scanner.

     If a recipient's scanner is not Twain compatible, the InfoImage can be scanned by its scanner application, saved to disk as a file, and retrieved by FaxSpeed using the Read from file option.
3. After all the pages of the InfoImage have been scanned, FaxSpeed automatically retrieves and decompresses the original files from the InfoImage and saves them in a Log file.
4. FaxSpeed then displays a list of the retrieved files and lets the recipient view each one in its appropriate application (if that application exists on the computer).
5. In FaxSpeed, the recipient must save the retrieved files.

Even though the list of files and their content can be viewed, the actual files of the InfoImage are not saved unless they have saved to disk.

# 20 Important Information

## Standard Telephone and FCC Notices

### These notices are in effect on models sold and used in the United States only.

**When programming emergency numbers and/or making test calls to emergency numbers:**

- Remain on the line and briefly explain to the dispatcher the reason for the call before hanging up.
- Perform these activities in the off-peak hours, such as early morning or late evening.

This equipment complies with Part 68 of FCC Rules. On the rear panel of this equipment is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

You may safely connect this equipment to the telephone line by means of a standard modular jack, USOC RJ11C.

An FCC compliant telephone cord with a modular plug is provided with this equipment. This equipment is designed to be connected to the telephone line or premises wiring using a compatible modular jack that is Part 68 compliant. See the Installation section of this manual for details.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area. If your MFC 9100C damages the telephone line, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advanced notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes to its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with your MFC 9100C, please contact a Brother Authorized Service Center for information on obtaining service or repair. The telephone company may ask that you disconnect this equipment from the line until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

If you are not able to solve a problem with your MFC, contact Brother at

| | |
|---|---|
| **USA:** | 1-800-284-4329 (voice)<br>1-908-575-8790 (fax) |
| **From within Canada:** | 1-800-853-6660 (voice)<br>1-514-685-4898 (fax) |
| **From within Montreal:** | 1-514-685-6464 (voice) |

### ⚠ WARNING

For protection against the risk of electrical shock, always disconnect all cables from the wall outlet before servicing, modifying or installing the equipment.

This equipment may not be used on coin service lines provided by the telephone company or connected to party lines.

Brother cannot accept any financial or other responsibilities that may be the result of your use of this information, including direct, special or consequential damages. There are no warranties extended or granted by this document.

## ⚠ Important—About the InterfaceCable

This machine complies with FCC standards, which are applied to the USA only. The shielded interface cable supplied with your MFC should be used according to FCC 15.27 (C). In addition, a grounded plug should be plugged into a grounded AC outlet after checking the rating of the local power supply for the printer to operate properly and safely.

## Federal Communications Commission (FCC) Declaration of Conformity (For USA Only)

Responsible Party: Brother International Corporation
100 Somerset Corporate Boulevard
Bridgewater, NJ 08807-0911 USA
TEL: (908) 704-1700

declares, that the products

Product Name: MFC 9100C

comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation.

## Industry Canada Compliance Statement (For Canada Only)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## ENERGY STAR® Compliance Statement

As an ENERGY STAR® Partner, Brother Industries, Ltd. has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

## Important Safety Instructions

1. Read all of these instructions.
2. Save them for later reference.
3. Follow all warnings and instructions marked on the product.
4. Unplug this product from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heater. This product should never be placed in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power source indicated on the label. If you are not sure of the type of power available, consult with your dealer or local power company.
8. This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin. This plug will fit into only a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
9. Do not allow anything to rest on the power cord. Do not place this product where people can walk on the cord.
10. If an extension cord is used with this product, make sure that the total ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes (USA only).
11. Do not place anything in front of the machine that will block received faxes. Do not place anything in the path of received faxes.
12. Do not touch a document during printing.
13. Never push objects of any kind into this product through cabinet slots, since they may touch dangerous voltage points or short out parts resulting in the risk of fire or electric shock. Never spill liquid of any kind on the product.

**14** Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points and/or other risks, and may void your warranty. Refer all servicing to Authorized Service Personnel. A list of Authorized Service Centers has been included for your convenience, or you may contact the following Customer Service Numbers for your nearest Authorized Service Center:

| | |
|---|---|
| **USA:** | 1-800-284-4329 (voice) |
| | 1-908-575-8790 (fax) |
| | 1-800-521-2846 (Fax-Back System) |
| **From within Canada:** | 1-800-853-6660 (voice) |
| | 1-514-685-4898 (fax) |
| | 1-800-681-9838 (Fax-Back System) |
| **From within Montreal:** | 1-514-685-6464 (voice) |

**15** This product does not have an ON/OFF switch. Therefore, it is very important that you have easy access to the main plug and the main socket to which the plug is connected, in case the main power to the MFC must be disconnected quickly.

**16** Unplug this product from the wall outlet and refer servicing to Authorized Service Personnel under the following conditions:

**A** When the power cord is damaged or frayed.

**B** If liquid has been spilled into the product.

**C** If the product has been exposed to rain or water.

**D** If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

**E** If the product has been dropped or the cabinet has been damaged.

**F** If the product exhibits a distinct change in performance, indicating a need for service.

**17** To protect your product against power surges, we recommend the use of a power protection device (Surge Protector).

## Compilation and Publication Notice

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The contents of this manual and the specifications of this product are subject to change without notice.

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# 21 Troubleshooting and Routine Maintenance

## Troubleshooting

### Fax-Back System

Brother Customer Service has installed an easy-to-use Fax-Back System, so you can get instant answers to common technical questions and product information for all Brother products. This system is available 24 hours a day, 7 days a week. You can use the system to send faxes to any fax machine, not just the one from which you are calling.

If you can't resolve a difficulty with your machine using this manual, call our Fax-Back System, and follow the voice prompts to receive faxed instructions about using the system, and an index of Fax-Back subjects.

| | |
|---|---|
| **USA:** | 1-800-521-2846 |
| **From within Canada:** | 1-800-681-9838 |

The Brother Fax-Back System number (USA only) has been preprogrammed on One Touch key [01].

### Brother Home Page

You can find more information about Brother products, from product specification sheets to Frequently Asked Questions (FAQs), on the World Wide Web. Visit us at

**http://www.brother.com**

### Brother Bulletin Board

Brother's Bulletin Board Numbers are

| | |
|---|---|
| **USA:** | 1-888-298-3616 |
| **From within Canada:** | 1-514-685-2040 |

### Error Messages

As with any sophisticated office product, errors may sometimes occur. If this happens, your MFC often identifies the problem and displays an error message. The table below explains the most common error messages.

You can correct most problems by yourself. If you need additional help, call the Brother Fax-Back System.

| | |
|---|---|
| **USA:** | 1-800-521-2846 |
| **From within Canada:** | 1-800-681-9838 |

| Error Messages | | |
|---|---|---|
| **Error Message** | **Cause** | **Action** |
| **CHECK CASSETTE** | MFC cassette cover is open or MFC cassette is not installed properly. | Close cassette cover or install cassette properly. |
| **CHECK PAPER** | MFC is out of paper. | Add paper to cassette. |
| **CHECK PAPER SIZE** | Your Paper Size setting may not match the size of paper in the cassette. | Change either paper in cassette or change Paper Size setting. |
| **CHECK SCAN LOCK** | The scanner lock is locked. | Release the scanner lock lever. If you see MACHINE ERROR AF (or AE), stop operation and call Customer Service for assistance:<br>**USA: 1-800-284-4329**<br>**From within Canada: 1-800-853-6660**<br>**From within Montreal: 1-514-685-6464** |
| **COMM. ERROR** | Poor phone line quality caused communication error. | Try the call again. If problem continues, call Telephone Company to check your phone line. |
| **CONNECTION FAIL** | You tried to poll a fax machine that is not in Polled Waiting mode. | Verify the other party's polling setup. |
| **COOLING DOWN** | The print head has overheated. | Unplug the MFC and wait 30 minutes for it to cool. |
| **COVER OPEN** | Scanner cover is not closed completely. | Press the Scanner Cover Release Button and lift the scanner cover, then close it. |
| **DISCONNECTED** | The other party or other party's fax machine terminated the call. | Try to transmit or receive again. |
| **DOCUMENT JAM** | Documents were not inserted or fed properly, or document scanned from ADF was longer than about 40 inches (90cm). | See page 21-4. |
| **INK EMPTY** | One or more of the ink cartridges is out of ink. | Replace the ink cartridges. (See pages 21-16.) |

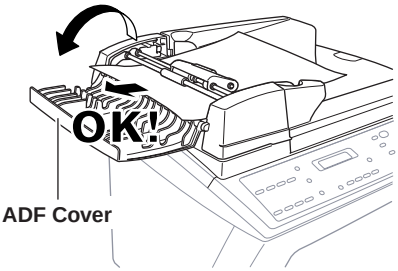
| Error Messages | | |
|---|---|---|
| **Error Message** | **Cause** | **Action** |
| **MACHINE ERROR XX** | MFC has a mechanical problem. | Call Brother Customer Service.<br>**USA: 1-800-284-4329**<br>**From within Canada: 1-800-853-6660**<br>**From within Montreal: 1-514-685-6464** |
| **MEMORY FULL** | You can't store data in the memory. | See page 10-2. |
| **NEAR EMPTY** | One or more of the ink cartridges is running out of ink. | Order a new ink cartridge. (See page ii.) |
| **NO RESPONSE/BUSY** | The number you dialed does not answer or is busy. | Verify the number and try again. |
| **NOT REGISTERED** | You tried to access a One Touch or Speed Dial number that is not programmed. | Set up the One Touch or Speed Dial number. (See pages 7-1, 7-2.) |
| **PLS OPEN COVER** | A page, piece of paper or paper clip, etc. may be jammed inside the MFC. | Press the Scanner Cover Release Button and lift the scanner cover. If you see any jammed paper or other item, gently pull it out, then close the scanner cover. If the error message remains, open and close the scanner cover again. If the MFC cannot reset itself and return to the date and time prompt, it will display MACHINE ERROR XX. Please call Brother Customer Service and tell them the Machine Error number, at:<br>**USA: 1-800-284-4329**<br>**From within Canada: 1-800-853-6660**<br>**From within Montreal: 1-514-685-6464** |
| **PRINTER JAM** | The paper is jammed in the MFC. | See page 21-5. |
| **SET CARTRIDGES** | An ink cartridge is not installed properly. | Re-install the ink, seating it properly. (See pages 21-16—21-19.) |
| **WARMING UP** | The print head detects low temperature. | Wait until the MFC warms up. |

# Document Jams and Paper Jams

Based upon where the original document or printed sheet is jammed, follow the appropriate set of instructions to remove it.

## Document Jam in the Top of the ADF Unit

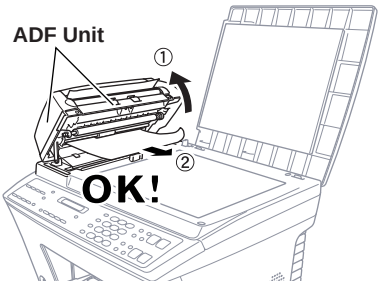
1. Remove any paper from the document feeder that is not jammed.




2. Lift the ADF cover.
3. Pull the jammed document out to the left.
4. Close the ADF cover.
5. Press Stop.

## Document Jam Inside the ADF Unit

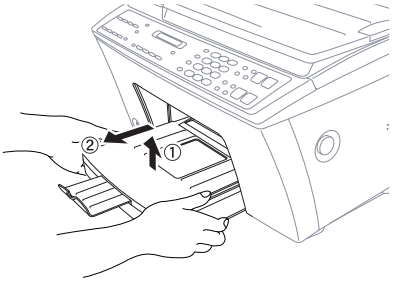
1. Open the document cover.
2. Remove any paper from the document feeder that is not jammed.



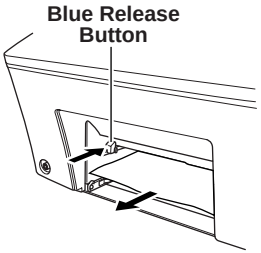

3. Lift the ADF unit.
4. Pull the jammed document out to the right.
5. Close the ADF unit.
6. Press Stop.

## Paper Jam

**1** Remove the paper cassette.




**2** **Press the blue release button** and pull the jammed paper out toward you.




**3** Slide the paper cassette into the MFC until it locks into place.

## If You Are Having Difficulty with Your MFC

If you think there is a problem with your MFC, make a copy first. If the copy looks good, the problem is probably not your MFC. Check the chart below and follow the troubleshooting tips.

**▶ Printing or Receiving Faxes**

| Difficulty | Suggestions |
|---|---|
| Condensed Print and Horizontal Streaks / Top and Bottom of Sentences Are Cut Off. | If your copy looks good, you probably had a bad connection, with static or interference on the phone line. If the copy looks bad, call Brother Customer Service at 1-800-284-4329 (**USA**), 1-800-853-6660 (**from within Canada**) or 1-514-685-6464 (**from within Montreal**). |
| Poor Quality Print | Make sure the Printer Driver matches the type of paper you are using. (See *Print Media* on page 23-3.) If you are using plain paper, try using recommended special paper. (See Chapter 2.) Don't handle the paper until the ink is dry. Adjust the Vertical Alignment. (See page 14-12.) |
| Printing Too Dark or Too Light | Make sure your ink cartridges are fresh. Cartridges are good up to two years; after that the ink may become clogged. Cartridge expiration dates are printed on the package. Make sure the Printer Driver matches the type of paper you are using. (See *Print Media* on page 23-3.) Try using recommended special paper. (See Chapter 2.) The recommended environment for your MFC is between 50º F to 95º F. |
| Printing Appears Dirty Ink Seems to Run. | Make sure you are using the recommended or paper. (See Chapter 3.) Don't handle the paper until the ink is dry. The recommended environment for your MFC is between 50º F to 95º F. |
| White Lines in Text or Graphics | Clean the print head. (See *Cleaning the Print Head* on page 21-10.) |
| Stains Appear on the Reverse Side or at the Bottom of the Page. | Make sure the Printer Platen and Pick Up Roller are not dirty with ink mist. (See page 21-15.) |
| Vertical Black Lines When Receiving | The sender's scanner may be dirty. Ask the sender to make a copy to see if the problem is with the sending machine. Try receiving from another fax machine. If the problem continues, call Brother Customer Service at 1-800-284-4329 (**USA**), 1-800-853-6660 (**from within Canada**) or 1-514-685-6464 (**from within Montreal**). |

| | Difficulty | Suggestions |
|---|---|---|
| **▶Phone Line or Connections** | MFC Does Not Answer When Called. | Make sure the MFC is not in MANUAL mode. Check for dial tone. If possible, call your MFC to hear it answer. If there is still no answer, check the telephone line cord connection. If there is no ringing when you call your MFC, call your Telephone Company to check the line. |
| **▶Sending Faxes** | Poor Transmitting Quality | Try changing your resolution to FINE or SUPERFINE. Make a copy to verify your MFC's scanner operation. |
| | Transmission Verification Report says "Result:NG" | There is probably temporary noise or static on the line. Try sending the fax again. If the problem continues, call the Telephone Company to check your phone line. |
| | Vertical Black Lines When Sending | If the copy you made shows the same problem, your scanner is dirty. (See *Cleaning the Scanner* page 21-14.) |
| **▶Handling Incoming Calls** | Transferring a Fax Call MFC. | If you answered at an external or extension to the phone, press your Fax Receive Code (default setting is ✳51). When your MFC answers, hang up. |
| | Custom Features on a Single Line | If you have Voice Mail, Distinctive Ring, an alarm system or any other custom feature on a single line with your MFC, it may create a problem sending or receiving fax data.<br><br>For example: If you are sending or receiving a fax message while a custom feature signal comes through on the line, the signal can temporarily interrupt or disrupt the fax data. Brother's ECM feature should help overcome this problem. This condition is related to the telephone system industry, and is common to all devices that send and receive information on a single, shared line with custom features. If avoiding a slight interruption is crucial to your business, a separate line with no custom features is recommended. |
| **▶Printing Difficulties** | Horizontal lines appear in Text or Graphics. | Clean the print head. (See *Cleaning the Print Head* on page 21-10.) If you clean the print heads five times and the print has not improved, call Brother Customer Service at 1-800-284-4329 (**USA**), 1-800-853-6660 (**from within Canada**) or 1-514-685-6464 (**from within Montreal**). |
| **▶Scanning Difficulties** | TWAIN Errors appear while scanning. | Make sure the Brother TWAIN Driver is selected as the primary source. In PaperPort®, click File \| Select Source, highlight the Brother TWAIN Driver and click Select. |

**▶Software Difficulties**

| Difficulty | Suggestions |
|---|---|
| You see the "New Hardware Found" message on your PC screen (although you have already installed the drivers in Windows 95). | Click on 'Do not install a driver. (Windows will not prompt you again)' and click 'OK'. (See page 12-3.) |
| You see the "Update Device Driver Wizard" or "Add New Hardware Wizaed" message on your PC screen (although you have already installed the drivers in Windows 95 or 98). | Follow the instructions from the installer, then click Next. Click Finish when it appears on the screen. (See page 12-3.) |
| The MFC does not data in the correct position. | Select the correct paper size using the DOS print Utility program. Since paper adjustment is different between ESC/P (right) and the MFC (center), the printing position should be adjusted for the MFC. |
| Cannot perform '2 in 1' printing. | Check that the paper size setting in the application and in the printer driver are the same. |
| Cannot print when using Paint Brush. | Try setting the Display setting to '256 colors'. |
| Cannot print when using Adobe Illustrator. | Try to reduce the printing resolution. |
| Thick line and thin line appear alternately. | Turn OFF 'Bi-Directional Printing' from the 'Control/Maintenance' tab (banding) in the printer driver. |
| There are some dense lines. | Turn ON 'Reverse Order' from the 'Paper' tab in the printer driver. |
| When using ATM fonts, some characters are missing or some characters are printed in the same place. | If you are using Windows 95/98, select 'Printer Settings' from the 'Start' menu. Open 'Brother MFC-9100' properties. Click 'Spool Setting' on the 'Details' tab. Select 'RAW' from 'Spool Data Format'. |
| When using Power Point or Excel, hatch pattern is not what you are expecting. | Open the 'Quality/Colour' tab in the printer driver, and change the 'Document Type' to 'Photo'. |

| | Difficulty | Suggestions |
|---|---|---|
| ▶**Software Difficulties (Continued)** | "Unable to write to LPT1" or "LPT1 already in use" Error Message appears. | 1. Make sure the MFC is on (plugged into the AC outlet) and that it is connected directly to the computer using the bundled IEEE-1284 bi-directional parallel cable. The cable must not go through another peripheral device (such as a Zip Drive, External CD-ROM Drive, or Switch box).<br><br>2. Make sure the MFC is not displaying an error message on the LCD Display.<br><br>3. Make sure no other device drivers, which also communicate through the parallel port, are running automatically when you boot up the computer (such as, drivers for Zip Drives, External CD-ROM Drive, etc.) Suggested areas to check: (*Load=, Run= command lines in the win.ini file or the Statup Group*)<br><br>4. Check with you computer manufacturer to confirm that the computer's parallel port settings in the BIOS are set to support a bi-directional machine; i.e. (Parallel Port Mode – ECP) |
| | "MFC is Busy" or "MFC Connect Failure" Error Message appears. | |
| ▶**Video Capture Difficulty** | LCD does not show "Video: Press Copy Capture Ready." | Check the video cable connection to the MFC's RCA pin jack. Check that the video equipment is sending a signal (video equipment is turned on and set to the correct setting). |

## Test Print

If the quality is not satisfactory, first print a test page to help you identify settings you may want to change.

1. Press Function, 2, 1.

```
1.TEST PRINT
```

2. Press Start. The MFC begins printing.
3. Press Stop to exit.

## Cleaning the Print Head

Clean the print head if you get a white horizontal line in the text or graphics on your printed documents. You can clean the four color (black, cyan, yellow, magenta) print heads (or a single color) by using Ink Management or from the printer driver.

### Caution

**Do NOT clean the print head by touching it with your hand or a cloth.**

1. Press Ink Management.
2. Press 1 to choose **1.CLEANING**.
3. Press ← or → to choose the color you want to clean and press Set.

The MFC will clean the print head automatically. When cleaning is finished, the MFC will go back online automatically.

### Caution

If you clean the print head at least five times and the print has not improved, call Brother Customer Service for assistance at 1-800-284-4329 (**USA**), 1-800-853-6660 (**from within Canada**), or 1-514-685-6464 (**from within Montreal**). You may have to replace the print head. (Replacement instructions are included with the HD002, print head accessory).

### WARNING

Do NOT touch the print head unless you are replacing it. Touching the print head may cause permanent damage and may void the print head's warranty.

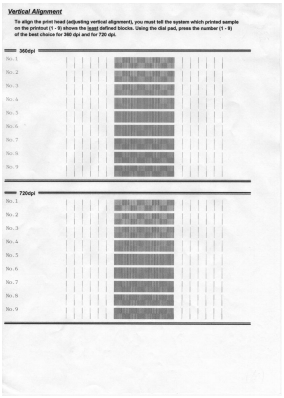
## Aligning Ink Cartridges

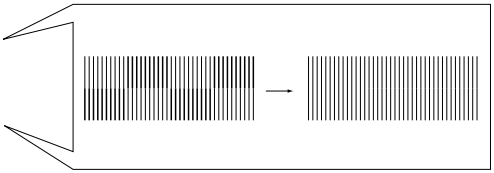
This feature allows you to check and align the ink cartridges to assure best print quality. Make sure there is paper in the cassette before you start the alignment procedure.

**1** Press Function, 2, 2.

```
2.VERTICAL ALIGN
```

**2** Press Start. The MFC prints a sample page.



Study the alignment page and decide which sample numbers show the most evenly printed ink lines for 360 and 720 dpi.

```
360 DPI ADJUST
ENTER NO.(1-9)
```

**3** Using the dial pad, enter the level of adjustment needed for 360 dpi (1 to 9).

```
720 DPI ADJUST
ENTER NO.(1-9)
```

**4** Using the dial pad, enter the level of adjustment needed for 720 dpi (1 to 9).

**5** Print another sample Test Print and check it. (See page 21-10.)

**6** Press Stop to exit.

## Turning Off Bi-directional Printing

You can further improve print quality by turning off bi-directional printing and setting the MFC to print in one direction only. However, this will reduce print speed by one half.

1. Press Function, 2, 3.

```
3.BI-DIR PRINT
```

2. Press 2 to select **OFF** (or 1 to select **ON**).

**Don't handle the paper until the ink is dry**

Special ink jet, glossy and transparency paper will take longer to dry than plain paper, so do not touch the printed copy until the ink has dried.

# *Packing and Shipping the MFC*

Whenever you transport the MFC, use the packing materials that came with your MFC. If you do not pack the MFC correctly, you could void your warranty.

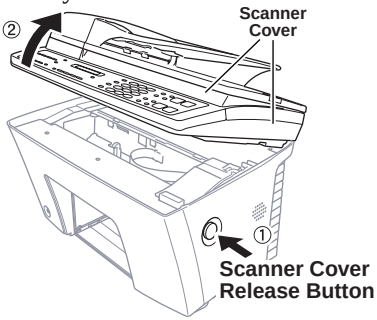
1. Unplug the MFC from the telephone wall socket.
2. Unplug the MFC from the AC outlet.

**⚠ WARNING**

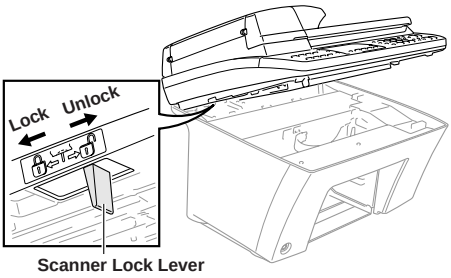
Do not unplug the MFC after a print job until you hear the final click.

3. Lock the Scanner Lock Lever .

A) Press the blue Scanner Cover Release Button on the right side of the MFC and lift the scanner cover until it locks in the open position.




B) The blue Scanner Lock Lever is on the back left under side of the scanner cover. Press it backward to lock it.

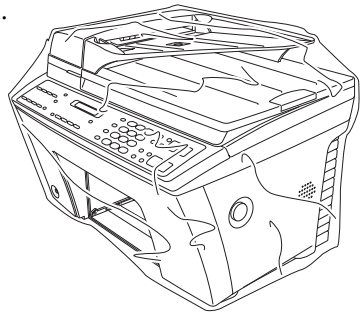


**WARNING**

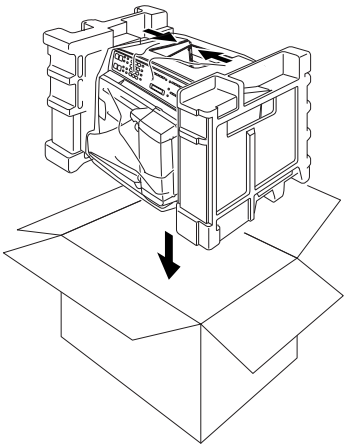
Damage caused to your MFC by failure to lock the scanner before moving and shipping will void your warranty.

4. Remove the paper cassette and pack them.

5. Remove the ink cartridges and replace them with the yellow shipping cover that was part of the original packing materials.



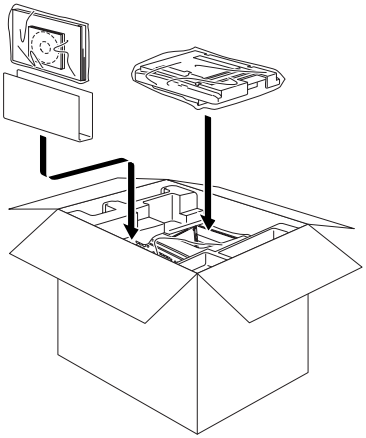
6. Wrap the MFC in the plastic bag and place it in the original carton with the original packing material.



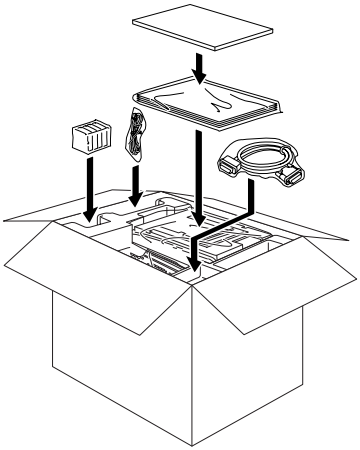
**Caution**

If you are unable to locate the shipping cover, do not remove the ink cartridges before shipping. It is essential that either the yellow shipping cover or the ink cartridges be in position during shipment. Otherwise, the print head will be damaged, voiding your warranty.

7. Place additional parts (such as manual and paper cassette) and documents (such as your manual) into the carton.



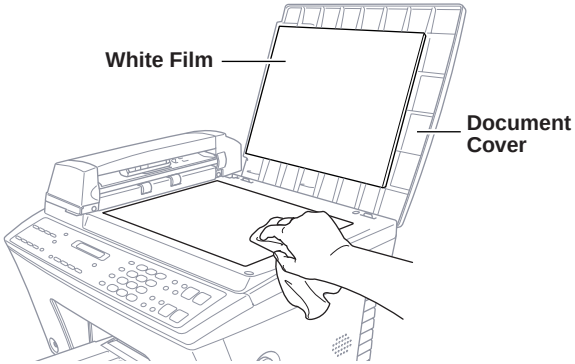
8 Close the carton.



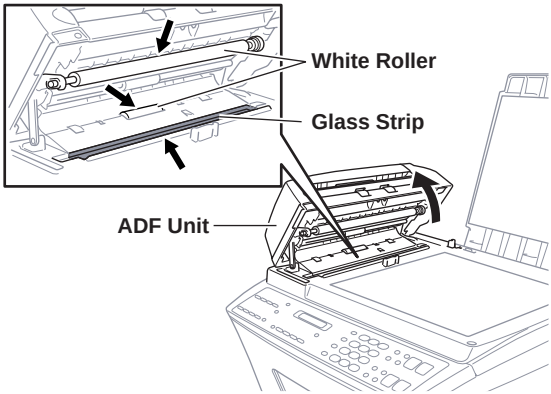
# Routine Maintenance

## Cleaning the Scanner

Unplug the MFC and lift the document cover. Clean the scanner glass and the white film with isopropyl alcohol on a lint free cloth.



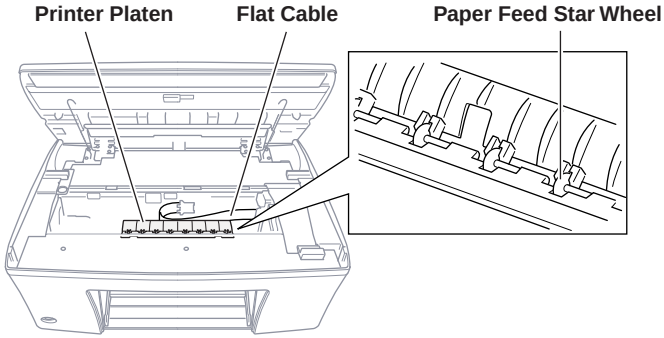
Lift the ADF unit. Clean the white roller and the glass strip under the roller with isopropyl alcohol on a lint-free cloth.




If the screen *still* displays a scanner error, call Brother Customer Service for assistance at 1-800-284-4329 (**USA**), 1-800-853-6660 (**from within Canada**), or 1-514-685-6464 (**from within Montreal**).

## Cleaning the MFC Printer Platen

To clean your MFC printer platen, wipe it with a lint free cloth that is dry or lightly moistened with isopropyl alcohol.

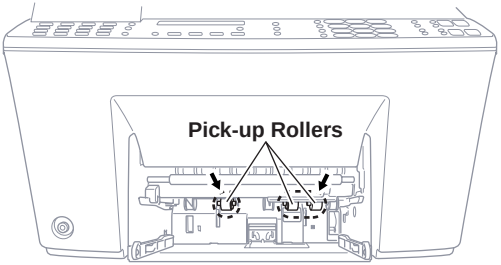



**WARNING**

Be careful not to touch the paper feed star wheels and flat cable.

## Cleaning the Pick-up Roller

1. Remove the paper cassette from the MFC.
2. Wipe the pick-up rollers with a cloth moistened with isopropyl alcohol.




3. Slide the paper cassette into the MFC until it locks into place.

**WARNING**

Be sure to unplug the MFC from the main power outlet before cleaning the printer platen and pick-up rollers.

## Replacing the Ink Cartridges

Your MFC is equipped with an ink dot counter that automatically monitors the ink level in each color cartridge. When the counter detects an ink cartridge is running out of ink, the MFC will notify you by lighting the "Ink Empty" LED.

| | | |
|---|---|---|
| Ink Empty LED Blinking | = | One or more Ink Cartridges are low. |
| Ink Empty LED On | = | One or more Ink Cartridges are empty. |

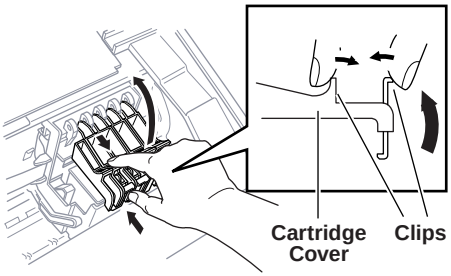
The display shows you which color cartridges are low or empty. Be sure to follow the display prompts so you replace the color cartridges in the appropriate order.

**When the ink cartridges are running low, you must use [Ink Management] to begin the cartridge replacement (Steps 1–3). If the ink is empty, skip to Step 3.**

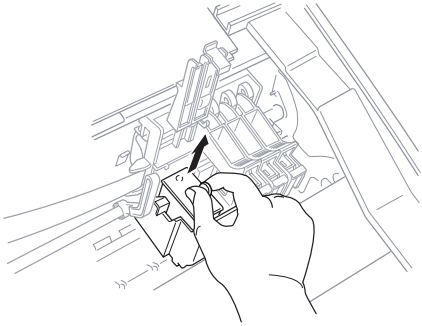
1. Press [Ink Management].
2. Press [←] or [→] to choose **2. REPLACE INK** and press [Set].

   If one or more ink cartridges are empty, for example Black, the screen displays **INK EMPTY BLACK** and **PLS OPEN COVER**.
3. Press the scanner cover release button and lift the scanner cover.

**4** Open the ink cartridge covers by pressing the clips together as shown in the illustration.

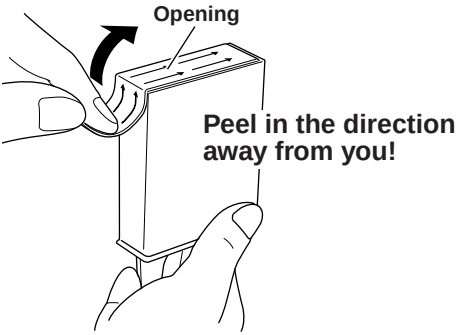



**5** Remove the ink cartridge by lifting it up and out of the print head.



**6** Open the new ink cartridge bag for the color on the display and remove the ink cartridge.

**7** Hold the new ink cartridge as shown in the illustration, and peel the sealing tape from the side of the ink cartridge. Carefully peel the tape in the direction away from you.

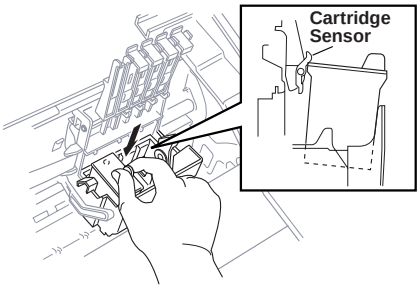



**IMPORTANT:** To prevent spilling ink and staining your hands and clothing, remove the sealing tape gently.

**8** Each color has its own correct position. Insert each new ink cartridge into the carriage using the color indicator on the print head as a guide.

Please be careful not to press down on the cartridge sensor.

**9** Close the cartridge covers until they click into place.




**10** After installing the ink cartridges, close the scanner cover. Your MFC prepares for a “head cleaning” and goes online. The display screen prompts you to verify a new ink cartridge was inserted for each color you removed. Example: **DID YOU CHANGE BLCK? 1. YES 2. NO**.

If the ink cartridge you installed is not a brand new one, please make sure to select 2.

**11** For each new cartridge, Press 1 on the dial pad to reset the ink dot counter for that color automatically. (The ink dot counter enables the MFC to notify you when a color is running low.)

The MFC will enter a cleaning cycle for approximately two minutes for each replaced cartridge. The display screen alternately shows **CLEANING** and **PLEASE WAIT**.

When the MFC completes the cleaning cycle, the display returns to Standby mode (date and time).

### WARNING

If ink gets in your eyes, irrigate them with water immediately and consult a doctor if you are concerned.

### Caution

- DO NOT remove ink cartridges if you do not need to replace them. If you do so, it may reduce the ink quantity and the printer will not know the quantity of ink left in the cartridge.
- DO NOT shake the ink cartridges, because the ink may spill when you take off the sealing tape.
- If ink stains your body or clothing, wash with soap or detergent immediately.
- If you install an ink cartridge in the wrong color position, you must clean the print head several times before you start printing, after correcting the cartridge installation, because the colors were mixed.

- Once you open an ink cartridge, install it in the MFC and use it up within six months of installation. Use unopened ink cartridges by the expiration date written on the cartridge package.
- DO NOT refill the ink cartridges. Attempting to use refilled cartridges may cause damage to the print head and will void your warranty.

  **NOTE:** If the INK EMPTY error message is on the display after you have installed ink cartridges, check that the ink cartridges are installed correctly.

## For Customer Service

| | | |
|---|---|---|
| **USA:** | 1-800-284-4329 | (voice) |
| | 1-908-575-8790 | (fax) |
| **From within Canada:** | 1-800-853-6660 | (voice) |
| | 1-514-685-4898 | (fax) |
| **From within Montreal:** | 1-514-685-6464 | (voice) |

# 22 Glossary

**Activity Report** Lists information about the last 50 incoming and outgoing faxes. TX means Transmit. RX means Receive.

**ADF (Automatic Document Feeder)** Refers to the number of pages that can be placed in the document feeder and fed one at a time automatically.

**All Dial List** A listing of names and numbers stored in One Touch and Speed Dial memory, in numerical order.

**Automatic E-Mail Printing** Software application that automatically prints incoming e-mail messages on the MFC (on CD-ROM 1).

**automatic fax transmission** Sending a fax without pressing Hook.

**Automatic Redial** A feature that enables your MFC to redial the last fax number if the original fax did not go through because the line was busy.

**Backup Print** Sets your MFC to print a copy of faxes that are received and stored in memory.

**beeper** The sound the keys make when they are pressed, an error occurs or a document has been received or transmitted.

**beeper volume** Volume setting for the beep when you press a key or make an error.

**Brightness** Changing the Brightness makes the whole image lighter or darker.

**broadcasting** The ability to send the same fax message to more than one location.

**Caller ID** A service purchased from the Telephone Company that lets you see the number (or name) of the party calling you. Your MFC stores the latest callers so you can print a Log, view caller information, register selected callers as auto dial numbers, and return calls.

**Cancel Job** Cancels a programmed job, like Delayed Fax or Polling.

**CNG tones** The special tones (beeps) sent by fax machines during automatic transmission to tell the receiving machine that they are a from fax machine.

**communication error (or Comm. Error)** An error during fax sending or receiving, usually caused by line noise or static.

**Coding Method** Method of coding the information contained in a document. All fax machines must use a minimum standard of Modified Huffman (MH). Your fax machine is capable of greater compression methods, Modified Read (MR) and Modified Modified Read (MMR), if the receiving machine has the same capability.

**Compatibility Group** The ability of one fax unit to communicate with another. Compatibilty is assured between ITU-T Groups.

**Contrast** Setting to compensate for dark or light documents, by lightening dark documents or darkening light documents.

**Cover Page** Prints a page at the other party's machine, that contains the sender and recipient's name and fax number, number of pages and comment. You can generate an electronic cover page at the other end with pre-programmed information from memory or you can print a sample cover page to fax with your document.

**Cover Page Message** The comment that is on the Cover Page. This is a programmable feature.

**Delayed Fax** Sends your fax at a later time that day.

**Delayed Timer** You can program a certain time each day that all delayed faxes will be sent on a first come/first served basis.

**Distinctive Ring** A service purchased from your telephone company that provides another phone number on an existing phone line. The Brother MFC uses the new number to simulate a dedicated fax line.

**Dual Access** Your MFC can scan outgoing faxes or scheduled jobs into memory at the same time it is sending a fax or receiving or printing an incoming fax.

**Easy Receive** Enables your MFC to respond to CNG tones if you interrupt a fax call by answering it.

**ECM (Error Correction Mode)** Detects errors during fax transmission and automatically resends the page(s) of the document that had an error.

**Electronic Cover Page** A preprogrammed cover page that is transmitted from the fax machine's memory, eliminating the need for making up cover pages manually.

**E-Mail Printing** Software application that automatically retrieves your e-mail messages from your POP3 server and prints them on your MFC.

**extension phone** A telephone on the fax number that is plugged into a separate wall jack.

**external phone** A TAD (telephone answering device) or telephone that is plugged into the EXT jack of your MFC.

**Fax Forwarding** Sends a fax received in memory to another preprogrammed fax number.

**Fax Storage** The MFC 9100C can save up to 600 fax pages in memory. You can print stored faxes later, or retrieve them from another location using Fax Forwarding, Paging, or Remote Retrieval functions.

**fax tones** The signals sent by sending and receiving fax machines while communicating information.

**Fine Mode** Resolution is 196 x 203 dpi. It is used for small print and graphs.

**Function Mode** Programming mode for changing the settings of your MFC.

**gray scale** The shades of gray available for copying and faxing photographs.

**group number** A combination of One Touch and/or Speed Dial numbers that are stored on a One Touch key for Broadcasting.

**Ink Management button** Cleans the print head and/or resets the ink dot counter after replacing an ink cartridge.

**interval** The preprogrammed time period between automatically printed Activity Reports. You can print Activity Reports on demand without interrupting this cycle.

**LCD (liquid crystal display)** The display screen on the MFC that shows interactive messages during On-Screen Programming and defaults to the date and time when the machine is idle.

**manual fax** When you press Hook so you can hear the receiving fax machine answer before you press Start to begin transmission.

**Memory Status Report** Shows how much memory is being used, how much is left, and the type of messages in memory.

**memory usage** Instructs the MFC how to allocate the memory.

**Multi-Function Link® Pro software** Turns your MFC into a printer and a scanner and enables PC faxing using the MFC.

**NetCentric™ FaxStorm Software application** Brings together the power of the Internet and the reliability of fax using Internet faxing from your desktop.

**OCR (optical character recognition)** The bundled TextBridge® software application converts an image of text to text you can edit.

**One Touch** Keys on the MFC control panel where you can store numbers for easy dialing. You must use a separate key for each number.

**Out of Paper Reception** Receives faxes into the MFC's memory when the machine is out of paper.

**Overseas Mode** Makes temporary changes to the fax tones to accommodate noise and static on overseas phone lines.

**Paging** Feature enables your fax unit to call your pager when a fax message is received into its memory.

**PaperPort® for Brother** Document management application where you can view received faxes and scanned documents.

**Pause** Allows you to place a 3.5 second delay in the dialing sequence stored on One Touch and Speed Dial numbers.

**Photo Mode** A resolution setting that uses varying shades of gray for the best representation of photographs.

**polling** The process of a fax machine calling another fax machine to retrieve waiting fax messages.

**printer alarm** Audible alarm when the printer is not able to print.

**print reduction** reduces the size of incoming faxes.

**Pulse** A form of dialing on a telephone line.

**Real Time Transmission** When memory is full, send documents in real time.

**remote retrieval access** The ability to access your MFC remotely from a touch tone phone.

**remaining jobs** You can check which jobs are waiting in memory and cancel jobs individually.

**remote retrieval access code** The four-digit code (159✱) that allows you to call your MFC to retrieve fax messages or change fax storage settings.

**remote activation** allows you to transfer a fax call, answered at an external or extension phone, to the MFC.

**resolution** The number of vertical and horizontal lines per inch. See: Standard, Super Fine and Photo.

**Ring Delay** The number of rings before the MFC answers in FAX mode.

**Ring Volume** Volume setting for the MFC's ring.

**Rotary** A form of dialing on a telephone line.

**scanning** The process of sending an electronic image of an original paper document into your computer.

**Speaker Volume** You can set the volume of the Hook key.

**speed dial** A preprogrammed number for easy dialing. You must press the Speed dial button and then two digit code to start the dialing process.

**Standard resolution** 98 x 203 dpi. It is used for regular size text and quickest transmission.

**Station ID** The stored information that appears on the top of faxed pages. It includes the sender's name and fax number.

**super fine resolution** 392 x 203 dpi. Best for very small print and line art.

**TAD (telephone answering device)** You can connect an external TAD to the EXT. jack for EXT. TEL/TAD mode.

**Tel-index** An electronic, alphabetical listing of stored One Touch, Speed Dial and Group numbers.

**temporary settings** You can select certain options for each fax transmission without changing the default settings.

**Tone** A form of dialing on the telephone line used for Touch Tone telephones.

**transmission** The process of sending documents over the phone lines from your MFC to the receiving fax machine.

**User Option List** Printed report of your MFC's current settings.

**Xmit Report (Transmission Report)** A listing of each transmission, showing caller ID, date, time, and number of pages.

# 23 Specifications

## Product Description

Six performance modes are available for the 6in1 model MFC 9100C: Fax, Printer, Copier, Scanner, PC Fax and Video Capture.

## Fax Specifications

| | |
|---|---|
| **Compatibility** | ITU-T Group 3 |
| **Coding System** | MH/MR/MMR |
| **Modem Speed** | 14400/12000/9600/7200/4800/2400<br>Automatic Fallback |
| **Document Size** | ADF Width: 5.8" to 8.5" (148 mm to 216 mm)<br>ADF Length: 5.0" to 14.0" (127 mm to 356 mm)<br>Scanner Width: Max. 8.5" (216 mm)<br>Scanner Length: Max. 11.7" (297 mm) |
| **Scanning/Printing Width** | 8.2 inches (208 mm) |
| **Paper Cassette** | 250 Sheets (20 lbs.) |
| **Printer Type** | Ink Jet |
| **Gray Scale** | 256 levels (Error Diffusion) |
| **Display** | LCD, 16 characters x 2 |
| **Polling Types** | Standard, Sequential |
| **Contrast Control** | Automatic/Super Light/Super Dark<br>(manual setting) |
| **Resolution** | • Horizontal 203 dot/inch (8 dot/mm)<br>• Vertical Standard—98 line/inch<br>(3.85 line/mm)<br>Fine, Photo—196 line/inch<br>(7.7 line/mm)<br>Superfine, Photo—392 line/inch<br>(15.4 line/mm) |
| **Memory Capacity** | 8 MB (up to 600 pages)* |
| **One Touch Dial** | 8 x 2 |
| **Speed Dial** | 100 stations |
| **Automatic Redial** | 3 times at 5 minute intervals |
| **Auto Answer** | 0, 1, 2, 3 or 4 rings |

* Using Brother #1 chart, with MMR coding and Standard Resolution

# Fax Specifications (Continued)

| | |
|---|---|
| **Communication Source** | Public switched telephone network |
| **Operating Environment** | 50–95° F (10–35° C) |
| **Best Print Quality** | 68–91° F (20–33° C) |
| **Power Source** | 120V AC 50/60Hz<br>(USA, Canadian Version Only) |
| **Power Consumption** | Standby: under 12 watts<br>Operating: under 30 watts |
| **Dimensions** | 19.4 x 18.9 x 14.6 (inches)<br>492 x 481 x 372 (mm) |
| **Weight** | 35.3lb/16kg |

* "Pages" refers to the "Brother Standard Chart No. 1" (a typical business letter, Standard resolution). Specifications and printed materials are subject to change for improvement without prior notice.

# Printer Specifications

## Printing

| | |
|---|---|
| **Print Method** | Piezo with 64 x 4 nozzles |
| **Resolution** | 1440 x 720 dots per inch (DPI)<br>720 x 720 dots per inch (DPI)<br>360 x 360 dots per inch (DPI)<br>360 x 180 dots per inch (DPI) |
| **Print Speed** | up to 7 pages/minute (Mono)<br>up to 4 pages/minute (Color) |
| **Print Width** | 8 inches (203.2 mm) |
| **Resident Fonts** | Bitmap fonts<br>■ Roman 10, 12, 15, PS |
| **Disk-Based Fonts** | 35 |

## Controller

| | |
|---|---|
| **Emulations** | GDI/EPSON ESC/P (LQ-510, LQ-850, LQ-2550) |
| **Interface** | Bundled shielded IEEE-1284 (bi-directional) parallel cable. The cable should not exceed 6.5 feet (2 m) in length. |

## Print Media

**Paper Input**

Automatic loading from the Multi-Purpose Paper Cassette or manual loading from the Manual Feed Slot

- Paper type:
  Plain paper, coated paper, glossy paper, transparancies, organizer paper (K, L) and envelopes
- Paper size:
  Letter, Legal, A4, B5, A5 Executive, envelopes: CM10, DL, C5
  organizer: (K, L)

| | |
|---|---|
| Width | 3.75–8.5" (95.3–216 mm) |
| Length | 6.75–14" (171.5–356 mm) |
| Weight | 17–32 lb (64–120 $g/m^2$) |

- Maximum feeder capacity: up to 250 sheets of 20 lb (75 $g/m^2$) plain paper.

**Paper Output**

Approximately 75 sheets of plain paper (Face up print delivery to the paper output tray) To prevent smearing the ink, we recommend removing printed pages from the paper output tray immediately after they exit the machine.

**Ink**

Black and 3 individual color ink cartridges separate from the print head

**Service Life of Ink Cartridge**

Approximately 750 pages/Black cartridge at 5% coverage

Approximately 400 pages/Color cartridge at 5% coverage

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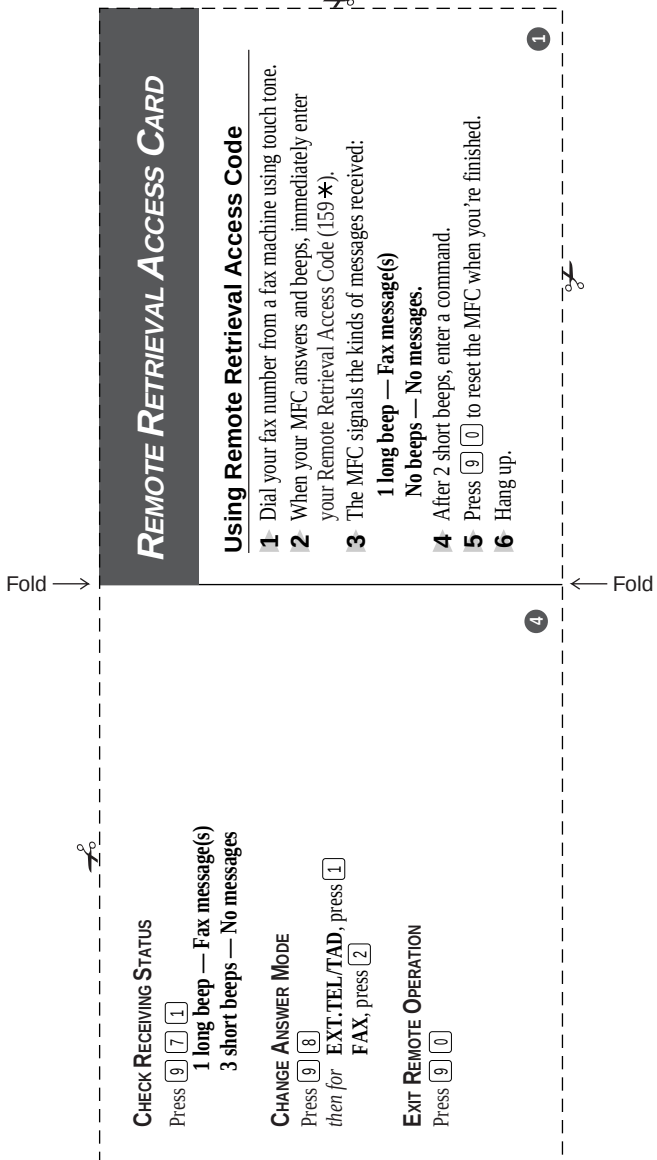
## Y


Year 2000 Compliant 1

## Remote Retrieval Access Card

If you plan to receive fax messages while away from your machine, carrying the Remote Retrieval Access Card printed below will serve as a convenient reminder of the retrieval procedures. Simply cut out the card and fold it to fit your wallet or organizer. Keeping it handy will help you derive the full benefit of your machine's forwarding, paging and remote retrieval features.


Fold
REMOTE RETRIEVAL ACCESS CARD
Using Remote Retrieval Access Code
1 Dial your fax number from a fax machine using touch tone.
2 When your MFC answers and beeps, immediately enter your Remote Retrieval Access Code (159 ✱).
3 The MFC signals the kinds of messages received:
1 long beep — Fax message(s)
No beeps — No messages.
4 After 2 short beeps, enter a command.
5 Press 9 0 to reset the MFC when you're finished.
6 Hang up.
1
Fold
CHECK RECEIVING STATUS
Press 9 7 1
1 long beep — Fax message(s)
3 short beeps — No messages
CHANGE ANSWER MODE
Press 9 8
then for EXT.TEL/TAD, press 1
FAX, press 2
EXIT REMOTE OPERATION
Press 9 0
4

Fold

## Changing Remote Retrieval Access Code

1. Press Function, 1, 7, 3.
2. Enter a three-digit number from 000 to 999.
   The ✳ cannot be changed.
3. Press Set.
4. Press Stop to exit.

## Remote Commands

### Change Paging/Fax Forwarding Setting

Press 9 5

*then to* **Turn feature off**, press 1
**Select Fax Forwarding**, press 2
**Select Paging**, press 3

2

**Program Fax Forwarding Number** press 4. Enter the new telephone number of the remote fax machine where you want your fax message forwarded, and then press # #. To retrieve a Memory Status List to check the new number, after two short beeps press 9 6 1. Enter the number of the remote fax machine, and press # #.

**Turn Fax Storage on**, press 6

**Turn Fax Storage off**, press 7

### Retrieve a Fax

Press 9 6

*then to* **Print a Memory Status List**, press 1,
then enter the number of the remote fax machine, and press # #. After the beep, hang up and wait.

**Retrieve all faxes**, press 2,
then enter the number of the remote fax machine, and press # #. After the beep, hang up and wait.

**Erase all fax messages**, press 3

3

Fold

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## http://www.brother.com

These machines are made for use in the USA and CANADA only. We cannot recommend using them overseas because it may violate the Telecommunications Regulations of that country and the power requirements of your Multi-Function Center may not be compatible with the power available in foreign countries. **Using USA or CANADA models overseas is at your own risk and will void your warranty.**

* Manufactured by Brother Industries Ltd. whose quality system is registered by BSI and JQA.

BSI Certificate of registration No. FM27214
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